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Workplace Violence Against Physicians Treating COVID-19 Patients in Peru: A Cross-Sectional Study

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Background: The COVID-19 pandemic is an unprecedented challenge to health systems that has revealed shortcomings and increased unmet demands. Such situations might exacerbate workplace violence (WPV) against physicians, as has been reported in several parts of the world.

Methods: To identify the frequency and characteristics of WPV suffered by physicians attending COVID-19 patients in Peru, a descriptive, cross-sectional study was conducted with an online survey of 200 physicians.

Results: Of the survey respondents, 84.5% had suffered some type of WPV; 97.6% of these suffered nonphysical violence. Suffering more than one incident of violence was reported by 75.7% of respondents. The primary aggressor was a patient’s family member or caregiver. Violence occurred most frequently in critical areas inside the health service facility, such as COVID-19 triage, tents, and hospital units, although it also occurred during teleconsultations. Multiple shortcomings of the health services were perceived as the main trigger of violence. Being a female physician (odds ratio [OR] = 2.48, 95% confidence interval [CI] = 1.06–5.83) and working in a COVID-19 ICU (OR = 5.84, 95% CI = 1.60–21.28) were the main factors associated with WPV.

Conclusion: Violence against physicians attending COVID-19 patients in Peru is common. The perceived factors that contribute most to violence are linked to deficiencies in health services.

In December 2019 the first cases of an atypical pneumonia that triggered an acute respiratory syndrome were reported in Wuhan, China. In January 2020 the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was officially identified as the responsible agent of the new coronavirus disease (COVID-19), and in March the infection was declared a pandemic.

The SARS-CoV-2 pandemic is an unprecedented challenge that has led to the collapse of health systems, causing work overload from a sudden and exponential increase in the demand for health care. This is one of the main factors triggering violence from the population against health personnel, particularly physicians.

The International Labour Organization (ILO) defines violence and harassment at work as "a range of unacceptable behaviours and practices, or threats thereof, whether a single occurrence or repeated, that aim at, result in, or are likely to result in physical, psychological, sexual or economic harm, and includes gender-based violence and harassment." This includes verbal abuse such as threats and insults that affect a worker’s health, productivity, and job satisfaction.

There is evidence of workplace violence (WPV) against health care workers—mainly in hospitals—but also in primary care health services. This is not an uncommon phenomenon, as shown by Liu et al. Violence against health care workers is a complex problem, the motivations of which must be evaluated carefully. Some studies agree that the lack of punishment of the perpetrator and the lack of reporting procedures and policies are major factors. Overcrowding and lack of understanding between patients and health personnel have also been suggested as triggers.

In Peru, despite policies to identify, prevent, and control occupational risk factors, the high frequency of WPV against health care workers persists both in hospitals and primary care services. Morales et al. found an 11.1% prevalence of physical violence and a 35.7% prevalence of psychological violence in primary care workers, while another study found that 80% of the physicians interviewed had been victims of WPV throughout their working lives in primary care services.

Violence against health personnel in times of health emergencies has also been documented. The causes are diverse, and one of the suggested ways to take action is to document the event in order to design interventions when the scope of the problem has been determined. In the context of the current COVID-19 pandemic, violence against health care workers has been documented in India and Pakistan, as well as in more than 600 cases in several other parts of the world.

In Latin America the picture is not much different. Although there are no accurate data on the prevalence of violent episodes against health personnel, press reports indicate a resurgence as a consequence of the current pandemic.
This is particularly true in countries that have experienced periods of internal violence and political instability, such as Mexico and Colombia.26 There have been reports of direct threats and discrimination against health personnel both inside and outside health facilities.26,27 Stigmatization and misinformation lead the public to see health care workers as a representation of the disease, and the fear of contagion materializes in both physical and nonphysical abuse.28

Peru is one of the countries most affected by COVID-19 in terms of incidence and mortality rates.29,30 Its fragmented health system and serious funding problems31 might further exacerbate violent episodes against health care workers. Here, we sought to determine the frequency and characteristics of WPV against Peruvian physicians attending COVID-19 patients.

METHODS
Study Design and Setting
This is a descriptive, cross-sectional study, carried out between August and September of 2020. Inclusion criteria were (1) physicians or residents (physicians training to become specialists)19) (2) attending COVID-19 patients in a COVID-19 category health facility in Peruvian territory and (3) willing to fill a self-administered online questionnaire. The participants were invited to participate by mail and WhatsApp and were provided with a link to the questionnaire.

The Peruvian health system is characterized by its fragmentation. Most health facilities are administered by the Ministry of Health (MINSA) and serve the neediest population. EsSalud is the social security service for salaried personnel and their families, financed by the Ministry of Labor; police and military health is administered by the Ministry of Defense, while private health facilities are financed by their users.32

In Peru, after the outbreak, only hospitals with the infrastructure to provide adequate care were categorized as COVID-19 health facilities. In these hospitals, outpatient visits are suspended. Only emergency services and hospitalization (non-COVID areas) are available for non–COVID-19 patients. Some physicians work exclusively in COVID-19 areas and COVID-19–critical areas, while others (mainly residents) have COVID-19 and non–COVID-19 shifts. The participants in our study were all attending COVID-19 patients.

Ethical Considerations
All proceedings were approved by the Institutional Review Board of Universidad Católica de Santa María. All participants had to agree to participate through a virtual informed consent before accessing the questionnaire.

Workplace Violence Questionnaire
The questionnaire is an adapted version of the ILO questionnaire on WPV in the health sector.33 This questionnaire has been used previously for studies conducted in Peru.16,20,21 Using Google Forms,34 we adapted the tool to fit the context of the COVID-19 pandemic.

The questionnaire consisted of 28 items divided into three sections. The first section aimed to gather socioeconomic and occupational characteristics. Section 2 included questions regarding violence: the type and frequency; the work area where the violent episode took place; and who the perpetrator was, with the following options: patient, patient’s family or caregiver, other health personnel, non-health personnel, other. To inquire about the most frequent type of violence in different hospital areas, options were presented according to areas available in Peruvian COVID-19 hospitals, such as tents, triage zones, hospitalization, ICU, attention modules, hospital corridors, and other services. Finally, this section included a question regarding whether the respondent thought WPV could have been prevented. The last section sought to evaluate factors associated with WPV and measures to prevent it. For this purpose, options extracted from previous studies were presented.16 The participant could decide whether they strongly agreed, agreed, disagreed, strongly disagreed, or were indifferent to the fact that the given factor was associated with WPV. A similar question with six options was presented for measures that were considered likely to prevent WPV. A complete version of the questionnaire used is provided as Appendix 1 (available in online article).

The request to participate came from the research team. To guarantee that only physicians working in a COVID-19 category hospital completed the questionnaire, we circumscribed the invitations to known professional networks not affiliated with any organization through a WhatsApp private group of physicians working in COVID-19 hospitals (n = 203) and by mail through physicians working as coordinators of COVID-19 areas (n = 60), but with no sanctioning capacity to avoid any feeling of coercion. The surveys were anonymized. We did not collect e-mail addresses, and the participants were notified of this prior to enrolling. We established a convenience sample of 200 respondents after previous studies with similar sample sizes.16,22 Questionnaires were available for answering until the sample was completed.

Statistical Analyses
Descriptive statistics are presented as counts and percentages for categorical variables and median and interquartile range for continuous variables. We grouped participants by whether or not they had experienced WPV during the pandemic and assessed differences in sociodemographic and occupational characteristics. Simple and multiple logistic regression was used to assess variables associated
with WPV. A multivariate regression model was fitted with variables that had a $p \leq 0.2$ in the univariate analysis, as has been performed elsewhere.\textsuperscript{35} Crude and adjusted odds ratios and 95% confidence intervals are reported. Statistical significance was denoted by $p < 0.05$. Statistical analyses were performed with SPSS 23 (IBM Corp., Armonk, New York) and RStudio 1.3.1073 (RStudio, PBC, Boston).

**RESULTS**

Of 263 physicians invited to participate in the study, 200 (76.0%) participated. The average age of participants was 37.5 years (range: 25–47 years), and the majority worked in a Ministerio de Salud (MINSAL)—administered hospital (54.5%) and had a medical specialty (63.0%). Table 1 presents the participants’ main sociodemographic and occupational characteristics.

In the context of the current pandemic, 84.5% of the physicians participating in our study had suffered some type of WPV while attending COVID-19 patients, of which 75.7% experienced more than one violent incident. All types of WPV were reported: 97.6% nonphysical violence, which included insults (3.6%), threats (4.1%), and other forms of verbal abuse (89.9%); sexual harassment, which accounted for three cases (1.8%); and one case of physical violence (0.6%). The aggressors were usually accompanying the patient—that is, a family member/caregiver—(43.0%). The place violence most frequently occurred was inside the health facility (88.2%). Interestingly, violence against physicians in remote work during teleconsultations was also reported (8.3%).

Results showed that verbal abuse was the most frequent type of violence experienced by COVID-19 physicians (55.8%), critical area residents (72.0%), and COVID-19 support physicians (40.0%). Furthermore, violence occurred most frequently in COVID-19 triage areas: 86.4% of respondents agreed WPV was very frequent or frequent here, followed by tents (72.2%), hospitalization areas (68.2%), modules (66.3%), and ICUs (52.1%). In Table 2, we present the characteristics of WPV by type of violence experienced. The only physical violence episode was reported in the COVID-19 triage area, and the perpetrator was the patient’s family member or caregiver. It should be noted that participants also reported violence by other health personnel and administrative or non-health staff. Violence by coworkers was mainly nonphysical, and some sexual harassment cases were reported.

Participants identified the following as possible factors associated with WPV against physicians in the COVID-19 pandemic: lack of medicines, human resources, ventilators, and medical equipment; patients in the severe phase of the disease; and infrastructure gaps (Figure 1).

Regarding the perception of violence, 7 out of 10 physicians perceive that WPV can be prevented, with solving the patients’ demands as the most agreed-upon measure to prevent WPV (95.5%). Recognition of WPV by health authorities (87.5%), dictating corrective measures and establishing procedures and places for complaints (85%), and increasing security (83%) were also among the preemptive measures that received the most positive responses.

Simple logistic regression shows that working in a COVID-19 area, particularly a COVID-19 ICU, increases the odds of suffering WPV ($aOR = 5.33$) (Table 3). This association persisted when adjusting the model by sex and years of experience. Furthermore, the multivariate regression model shows that being a female is associated with greater odds of WPV (Table 3).

**DISCUSSION**

This study sought to document the frequency and characteristics of WPV against physicians in Peruvian health services in the context of the COVID-19 pandemic. According to the results, 84.5% of the physicians interviewed had suffered violence while attending COVID-19 patients, with more than 75% suffering violence on multiple occasions. Most of the violence was nonphysical, with only one incident of physical violence reported.

The pandemic found the country in the midst of a health system reform characterized by fragmentation and underfunding, with households financing more than 50% of their health expenditure through out-of-pocket payments and severe deficits in infrastructure and equipment.\textsuperscript{36,37} Unfortunately, these characteristics are the norm rather than the exception in health systems of the Global South\textsuperscript{38} and have clearly affected the response to the emergency.

The weakness of the health system is coupled with the excessive technological dependence of the region. Only 4% of needed medical supplies such as personal protective equipment and ventilators are sourced within Latin America, making the region highly vulnerable in circumstances of global high demand and low production capacity, such as that experienced early in the pandemic.\textsuperscript{39} Lack of ventilators was perceived as one of the main triggers of WPV. In fact, a comparison between Latin American countries shows that Peru is the country with the lowest number of ventilators per 100,000 inhabitants (2.9 compared to Brazil’s 31). A similar scenario is seen when analyzing number of ICU beds, number of specialists, and overall health expenditures.\textsuperscript{40}

Lack of oxygen is also perceived as an explanation for violence. In Peru, even high-complexity hospitals attending COVID-19 patients do not have proper oxygen infrastructure, and toward the exponential increased demand for oxygen hospital plants could only produce a fraction.\textsuperscript{41,42} Much of the oxygen had to be purchased by patients from private companies that increased its price considerably.\textsuperscript{41} As noted in other studies, increased out-of-pocket expenditure strains the relationship between patients and their
families with health personnel and might contribute to violence.\textsuperscript{43,44}

Reports of violence against physicians in Peru from before the pandemic range from 19.9\%\textsuperscript{17} to 47\%\textsuperscript{16} when analyzing violence suffered in the last 12 months. Therefore, our results would show that violence against health care workers in the country has increased during the state of emergency.

As pointed out by Singh et al., WPV against health personnel might be a symptom of more profound problems in

### Table 1. Sociodemographic and Occupational Characteristics of Studied Sample\textsuperscript{*}

| Variable                          | Total n (%) | Violence n (%) | No Violence n (%) | P Value |
|-----------------------------------|-------------|----------------|------------------|---------|
| **Age**                           |             |                |                  |         |
| Median (IQR)                      | 37.5 (31.5–47) | 37 (31–47) | 39 (33–48) | 0.43    |
| < 30                              | 36 (18.0) | 33 (91.7) | 3 (8.3) | 0.26    |
| 30–45                             | 98 (49.0) | 80 (81.6) | 18 (18.4) |         |
| > 45                              | 66 (33.0) | 56 (84.8) | 10 (15.2) |         |
| **Sex**                           |             |                |                  |         |
| Male                              | 106 (53.0) | 86 (81.1) | 20 (18.9) | 0.16    |
| Female                            | 94 (47.0) | 83 (88.3) | 11 (11.7) |         |
| **Marital status**                |             |                |                  |         |
| Married                           | 89 (44.5) | 72 (80.9) | 17 (19.1) | 0.65    |
| Cohabiting                        | 15 (7.5) | 12 (80.0) | 3 (20.0) |         |
| Single                            | 77 (38.5) | 67 (87.0) | 10 (13.0) |         |
| Separated                         | 11 (5.5) | 10 (90.9) | 1 (9.1) |         |
| Divorced                          | 6 (3.0) | 6 (100) | 0 |         |
| Widowed                           | 2 (1.0) | 2 (100) | 0 |         |
| **Whom do you live with?**        |             |                |                  |         |
| Moved to avoid spreading          | 23 (11.5) | 20 (87.0) | 3 (13.0) | 0.64    |
| No family                         | 5 (2.5) | 3 (60.0) | 2 (40.0) |         |
| Lives alone                       | 23 (11.5) | 20 (87.0) | 3 (13.0) |         |
| Lives with family                 | 58 (29.0) | 49 (84.5) | 9 (15.5) |         |
| Lives with part of family         | 91 (45.5) | 77 (84.6) | 14 (15.4) |         |
| **Dependent individuals**         |             |                |                  |         |
| None                              | 18 (9.0) | 18 (100) | 0 | 0.15    |
| 1                                 | 95 (47.5) | 76 (80.0) | 19 (20.0) |         |
| 2–3                               | 75 (37.5) | 64 (85.3) | 11 (14.7) |         |
| > 4                               | 12 (6.0) | 1 (8.3) | 11 (91.7) |         |
| **Occupational Characteristics**  |             |                |                  |         |
| Medical specialty                 |             |                |                  |         |
| Yes                               | 126 (63.0) | 104 (82.5) | 22 (17.5) | 0.60    |
| No                                | 34 (17.0) | 30 (88.2) | 4 (11.8) |         |
| Residence                         | 40 (20.0) | 35 (87.5) | 5 (12.5) |         |
| **Specialty**                     |             |                |                  |         |
| Resident                          | 40 (20.0) | 35 (87.5) | 5 (12.5) | 0.45    |
| General practitioner              | 34 (17.0) | 29 (85.3) | 5 (14.7) |         |
| Internal physician                | 19 (9.5) | 18 (94.7) | 1 (5.3) |         |
| Other specialties                  | 107 (53.5) | 87 (81.3) | 20 (18.7) |         |
| **Years of experience**           |             |                |                  |         |
| Median (IQR)                      | 10 (5–18) | 10 (5–18) | 10 (5–15) | 0.57    |
| ≤5                                | 60 (30.0) | 52 (86.7) | 8 (13.3) | 0.65    |
| 6–10                              | 48 (24.0) | 38 (79.2) | 10 (20.8) |         |
| 11–15                             | 47 (23.5) | 39 (83.0) | 8 (17.0) |         |
| ≥16                               | 45 (22.5) | 40 (88.9) | 5 (11.1) |         |
| **Months attending COVID-19 patients** |       |                |                  |         |
| Median (IQR)                      | 5 (4–5) | 5 (4–5) | 5 (4–5) | 0.66    |
| ≤3                                | 28 (14.1) | 22 (78.6) | 6 (21.4) | 0.57    |
| 4–5                               | 160 (80.8) | 137 (85.6) | 23 (14.4) |         |
| > 5                               | 10 (5.1) | 9 (90.0) | 1 (10.0) |         |
| **Place of work**                 |             |                |                  |         |
| Primary care                      | 30 (15.0) | 26 (86.7) | 4 (13.3) | 0.52    |
| MINSA hospital                     | 109 (54.5) | 94 (86.2) | 15 (13.8) |         |
| EsSalud hospital                   | 48 (24.0) | 40 (83.3) | 8 (16.7) |         |
| Private facility                   | 8 (4.0) | 6 (75.0) | 2 (25.0) |         |
| Other                             | 5 (2.5) | 3 (60.0) | 2 (40.0) |         |

\* Values are frequencies and percentage; chi-square test for categorical variables; Wilcoxon rank-sum test for continuous variables. IQR: Interquartile range; MINSA, Ministry of Health.
Table 2. Characteristics of Workplace Violence According to Type of Violence Experienced

| Area                   | Type of Violence | Threats | Insults | Verbal Abuse | Physical Violence | Sexual Harassment |
|------------------------|------------------|---------|---------|--------------|------------------|------------------|
| COVID-19 triage        | 10.1             | 16.2    | 69.8    | 0.9          | 2.0              |
| Hospitalization        | 9.6              | 12.2    | 76.4    | 0            | 0.9              |
| ICU                    | 4.5              | 10.4    | 85.1    | 0            | 0                |
| Hospital corridors     | 8.6              | 16.0    | 75.3    | 0            | 0                |
| Tents                  | 8.3              | 14.9    | 76.9    | 0            | 0                |
| Modules                | 9.0              | 12.6    | 78.4    | 0            | 0                |
| Other services         | 6.8              | 16.4    | 76.7    | 0            | 0                |
| Outside health facility| 3.9              | 9.6     | 86.5    | 0            | 0                |
| Teleconsultation       | 11.4             | 6.8     | 81.8    | 0            | 0                |
| Near home              | 0                | 30.1    | 69.2    | 0            | 0                |

Main perpetrator

| Factor                              | Type of Violence | Threats | Insults | Verbal Abuse | Physical Violence | Sexual Harassment |
|-------------------------------------|------------------|---------|---------|--------------|------------------|------------------|
| Patient's family/caregiver          | 33.7             | 28.4    | 39.7    | 0.6          | 4.7              |
| Patient                             | 3.5              | 7.7     | 11.2    | 0            | 1.2              |
| Health personnel                    | 0.6              | 0       | 2.9     | 0            | 3.6              |
| Non-health personnel                | 6.0              | 1.2     | 8.9     | 0            | 1.8              |
| Other                               | 0                | 0       | 0       | 0            | 0.6              |

* Values are percentages.

Table 3. Crude (cOR) and Adjusted (aOR) Odds Ratio of Factors Associated with Workplace Violence

| Factor                              | cOR   | 95% CI   | P     | aOR   | 95% CI   | P     |
|-------------------------------------|-------|----------|-------|-------|----------|-------|
| Age                                 | 1.96  | 0.51–7.65| 0.331 | –     | –        | –     |
| Sex                                 | 1.75  | 0.79–3.88| 0.461 | 1     | 1.06–5.83| 0.037 |
| Work area                           |       |          |       |       |          |       |
| COVID-19 area                       | 3.36  | 1.09–10.33| 0.035 | 3.67  | 1.15–11.78| 0.029 |
| ICU COVID-19                        | 5.33  | 1.52–18.66| 0.009 | 5.84  | 1.60–21.28| 0.007 |
| Non–COVID-19                        | 1     | 0.34–1.85| 0.592 | –     | –        | –     |
| Years of experience                 |       |          |       |       |          |       |
| ≤ 5                                 | 1     | 0.34–1.85| 0.592 | –     | –        | –     |
| > 5                                 |       |          |       |       |          |       |
| 6–10                                | 0.58  | 0.21–1.62| 0.302 | 0.75  | 0.26–2.21| 0.604 |
| 11–15                               | 0.4   | 0.13–1.25| 0.113 | 0.52  | 0.15–1.78| 0.304 |
| ≥16                                 | 1.56  | 0.51–4.80| 0.434 | 2.01  | 0.62–6.54| 0.241 |
| Specialty                           |       |          |       |       |          |       |
| Resident                            | 1.48  | 0.52–4.21| 0.461 | –     | –        | –     |
| No specialty                        | 1.51  | 0.51–4.96| 0.428 | –     | –        | –     |
| With specialty                      |       |          |       |       |          |       |
| Months working with COVID-19 patients|       |          |       |       |          |       |
| ≤ 3                                 | 1     | 0.61–4.51| 0.321 | –     | –        | –     |
| > 3                                 | 1.66  | 0.61–4.51| 0.321 | –     | –        | –     |
| Place of work                       |       |          |       |       |          |       |
| Primary care                        | 2.16  | 0.61–14.86| 0.429 | –     | –        | –     |
| MINSA hospital                      | 2.09  | 0.39–11.33| 0.393 | –     | –        | –     |
| EsSalud hospital                    | 1.67  | 0.28–9.80| 0.572 | –     | –        | –     |
| Other                               | 0.5   | 0.04–5.51| 0.571 | –     | –        | –     |
| Private hospital                    | 1     | 0.34–1.85| 0.592 | –     | –        | –     |

CI, confidence interval; MINSA, Ministry of Health.

a health system, such as lack of human resources and unfit facilities, which are a hurdle to adequate and timely care. These demands need to be properly addressed to decrease violence, as participants in our study suggested. Among the main variables associated with WPV, our results show that female physicians are at greater risk. Previous studies had also identified women as the main victims of WPV. The areas with the highest frequency
of violence against physicians are COVID-19 triage tents and hospitalization, which—given the health emergency—constitute critical areas. Furthermore, working in a COVID-19 ICU significantly increased the odds of suffering WPV compared to other areas. Sumari et al. had already identified that 100% of physicians working in emergency areas in a level III hospital in the Southern Region of Peru had reported being victims of violence or some type of aggression at some point in their working lives. Likewise, Sun et al. determined that WPV more frequently affected physicians in emergency departments, ICUs, and psychiatric wards. In this regard, Kumari argues that the greatest risk of aggression against physicians occurs in intensive care and emergency units due to the patient’s “additional cognitive load during stressed decision making.” In precarious contexts such as a pandemic, in which patients, as well as family members and friends of patients, have high levels of anxiety and psychological distress, levels of violence are expected to increase.

Due to the pandemic, a large number of physicians are working remotely through phone calls or video calls because they have some risk factor that predisposes them to disease. Our study found that there is violence in teleconsultations. As far as we know, this is the first report of violence against health personnel in telehealth. As the COVID-19 pandemic has enabled the widespread use of telehealth globally, it is important to consider nonphysical violence toward health personnel as a rising challenge for telehealth provision.

The most frequent type of violence against physicians is nonphysical. This is in line with studies conducted in a wide range of cultures and geographic areas, such as Pakistan and Spain, in pre-pandemic reports. WPV in any form affects its victims profoundly by producing burnout, increasing absenteeism, and affecting performance.
Finally, study participants identified lack of policies, procedures, and places to report violent incidents as reasons for the high frequency of WPV. This has been identified as a main cause of violence in other countries. In Peru there is no law specifically tailored to address violence toward health professionals. There are relevant laws addressing WPV in general, and in 2019 a bill that modifies the law against violence qualifying as an aggravating factor any aggression against health personnel was proposed by the Peruvian Parliament, given the high frequency of the problem. If the bill passes, a thorough assessment of the effects of its passing on WPV rates should be carried out to gather evidence for the effects of proper policies. As stated before, there is no one-size-fits-all solution for WPV against health care providers. More evidence is needed of the effects of any strategy, intervention, or legislation to reduce WPV.

Limitations
Our study has limitations. The sampling was non-probabilistic, and only physicians working in COVID-19 hospitals were invited to complete the questionnaire. Therefore, there could have been a preference for physicians who suffered some kind of violence. The limited sample size suggests taking the associations found in our study with caution. Nevertheless, to the best of our knowledge, this is the first study in Peru on WPV against physicians who treat COVID-19 patients, which brings us closer to a reality heavily affecting health professionals. This first approach to characterizing WPV provides information that should be taken into account by health care organizations and researchers as they continue gathering evidence. Further characterization of WPV in other countries, in other health professions, and from different methodologies, such as a qualitative approach, will help us better understand WPV as a whole.

CONCLUSION
Violence against physicians attending COVID-19 patients is very frequent in Peru, with 8 out of 10 having suffered from it and 7 out of 10 having suffered from it more than once. Being a female and working exclusively in a COVID-19 area significantly increase the risk of suffering WPV. The shortcomings of the health system in terms of lack of human resources, equipment, and ICU beds are the main reasons for the high rates of violence, according to the interviewed physicians. Preventive measures must be taken to decrease and avoid violence toward health personnel.

SUPPLEMENTARY MATERIALS
Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.jcqj.2021.06.002.

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