



Safety of health professionals in facing the new coronavirus in Brazil

Segurança dos profissionais de saúde no enfrentamento do novo coronavírus no Brasil

Seguridad de los profesionales de la salud en el enfrentamiento al nuevo coronavirus en Brasil

Neuranides Santana¹

Greice Alves Costa¹

Sabrina dos Santos Pinho Costa¹

Larissa Vitória Pereira¹

Jéssica Vieira da Silva¹

Ivana Patricia Perrelli Maia Sales¹

1. Universidade Federal da Bahia, Escola de Enfermagem. Salvador, BA, Brasil.

ABSTRACT

Objectives: to present the number of health professionals affected by COVID-19 in Brazil, to identify some control measures to reduce vulnerability and the health repercussions of these professionals in facing the COVID-19 pandemic. **Method:** a descriptive study was implemented, using epidemiological bulletins and the Centers for Disease Control and Prevention as a source. **Results:** 22 Brazilian states report cases of COVID-19 among health professionals, totaling 181,886. Among all the capitals of the country, 12 bring information. Some recommended measures are: engineering control, safety, administrative, work safety practices and individual protective equipment. The repercussions involve mental health with psychic implications, psychological and psychiatric disorders. **Conclusion and implications for the practice:** the pandemic has revealed, in a raw and unequivocal way, the picture of unequal, segregationist and harmful working conditions for human health to which health professionals are exposed, calls for changes and recognition and urge for the valorization of this professional group.

Keywords: Coronavirus infections; Health personnel; Worker's health; SARS virus; Mental health.

RESUMO

Objetivos: apresentar o número de profissionais de saúde acometidos pela COVID-19 no Brasil, identificar algumas medidas de controle para redução da vulnerabilidade e as repercussões sobre a saúde desses profissionais no enfrentamento da pandemia COVID-19. **Método:** implementado estudo descritivo, tendo como fonte boletins epidemiológicos e o *Centers for Disease Control and Prevention*. **Resultados:** 22 estados brasileiros informam casos da COVID-19 entre os profissionais de saúde, totalizando 181.886. Dentre todas as capitais do país, 12 trazem informações. Algumas medidas recomendadas são: controle de engenharia, segurança, administrativas, práticas de segurança no trabalho e equipamentos de proteção individual. As repercussões envolvem saúde mental com implicações psíquicas, transtornos psicológicos e psiquiátricos. **Conclusão e implicações para a prática:** a pandemia desvelou, de forma crua e inequívoca, o retrato das condições de trabalho desigual, segregacionista e nefasto para a saúde humana a que os profissionais de saúde estão expostos, clama por mudanças e reconhecimentos e urge para a valorização desse grupo profissional.

Palavras-chave: Infecções por Coronavírus; Pessoal de saúde; Saúde do trabalhador; Vírus da SARS; Saúde Mental.

RESUMEN

Objetivos: presentar el número de profesionales de la salud afectados por COVID-19 en Brasil, identificar algunas medidas de control para reducir la vulnerabilidad y las repercusiones en la salud de estos profesionales en el enfrentamiento a la pandemia del COVID-19. **Método:** se implementó un estudio descriptivo, utilizando como fuente boletines epidemiológicos y los Centros para el Control y la Prevención de Enfermedades. **Resultados:** Veintidós estados brasileños informan casos de COVID-19 entre los profesionales de la salud, totalizando 181.886. Entre todas las capitales del país, 12 traen información. Algunas medidas recomendadas son: control de ingeniería, seguridad, administrativas, prácticas de seguridad en el trabajo y equipo de protección individual. Las repercusiones se refieren a la salud mental con implicaciones psíquicas, trastornos psicológicos y psiquiátricos. **Conclusión e implicaciones para la práctica:** la pandemia ha develado de manera cruda e inequívoca, el retrato de las condiciones laborales desiguales, segregacionistas y nefastas para la salud humana a las que están expuestos los profesionales de la salud y exige cambios y reconocimiento, porque es urgente la valorización de este colectivo profesional.

Palabras clave: Infecciones por coronavirus; Personal sanitario; Salud del trabajador; Virus del SARS; Salud mental.

Corresponding author:

Neuranides Santana.

E-mail: neuranides@gmail.com.

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INTRODUCTION

One of the effects of the crisis is to bring out structural issues that are sometimes submerged but known to many. The invisibility of front-line health professionals is certainly one of these structural issues.

Since December 31, 2019, when the World Health Organization (WHO) was alerted about cases of pneumonia by a type of SARS Virus, the Coronavirus, in the city of Wuhan, health professionals have come out of invisibility and been honored as heroes.¹ In March 2020, COVID-19 (*Coronavirus Disease 2019*) was characterized as a pandemic, putting all health systems in the world on alert. And, like them, their gears, i.e., the health professionals.²

With COVID-19, the world has established a feeling of instability and fear, impacting morbidity and mortality in an accelerated manner, even without counting on a strategic plan to be applied to this pandemic, specifically. The guidelines of the WHO and the *Centers for Disease Control and Prevention*, as well as other national and international organizations, initially brought applications of the *influenza* contingency plan due to the fact that they believe there are clinical and epidemiological similarities with the new Coronavirus named SARS-CoV-2.³

In Brazil, the first case of the disease in Latin America was registered on February 26, 2020. Since then, until September 19, 2020, the country accounts for 4,657,702 cases and 139,808 deaths per COVID-19, second only to the United States, which ranks first⁴

In this scenario, with a high transmission rate (R_0), people infected with Coronavirus can be transmission vehicles, even asymptomatic ones, which has ignited and should keep the alert for the need of monitoring the vulnerable population and especially the health area.

The way the Brazilian government has faced the pandemic shows incongruity and antagonism of world recommendations, even among federative entities. The country, despite having the Sistema Único de Saúde (SUS), a universal system that articulates the basic network with emergency, emergency, intensive care and hospitalization networks, has not been able to achieve successful results.

The current situation has exposed the evils faced by SUS with the lack of funding, the growing outsourcing and informality of the insertion of essential professionals in its structure.

Other vulnerabilities focus on the unequal distribution of medium and high complexity attention infrastructure. With this, it is expected that the management of SUS is rethought, since it faces serious difficulties due to the R_0 of the new Coronavirus, the lack of equipment and inputs to meet the demand of the population and properly protect the professionals.⁵

Even with all the limits and contradictions, the SUS through its network of services and responsibilities is reaffirming itself as evident, central, and indispensable in confronting the pandemic, sustained and driven by its contingent of workers, considered essential to the operationalization of the system.

The poor conditions and precariousness of the environment and facilities, where health professionals carry out their work,

potentialize the vulnerabilities regarding the maintenance of safety, physical integrity and health as a whole.

In this sense, until September 21, 2020, the Associação Médica Brasileira registered 3926 anonymous denunciations of health professionals about the lack of several PPE throughout the country.⁶ The Conselho Federal de Enfermagem (COFEN), the only health council that so far releases updated data on its professionals, on September 25, 2020, registered 27,930 nursing professionals removed from work due to suspicion or diagnosis of Covid-19. These data corroborate the estimates for Brazil to become the first country in the world in deaths of health professionals, being 400 nursing professionals and surpassing countries as United States, Italy and Spain. This panorama reinforces the imminent risk that inflicts these workers, besides the physical and psychological pressures inherent to pandemic situations⁷⁻⁹

From this perspective, the aspects that involve health work should be evaluated as a strategy to confront COVID-19. Work activities may play a relevant role in the dissemination of the virus, mainly to those in the front-line, such as health personnel.¹⁰ In view of the above, the present work aims at presenting the number of health professionals affected by COVID-19 in Brazil, identifying some control measures to reduce vulnerability and the health repercussions of these professionals in facing the COVID-19 pandemic.

METHOD

It is a descriptive study, with analysis of secondary data from information published between March and September 2020. The information was acquired in virtual documentary sources through the sites of health agencies. Data regarding the cases of COVID-19 among health professionals were searched in the epidemiological bulletins of the Ministério da Saúde, 26 Secretarias Estaduais and 27 Secretarias Municipais de Saúde of the capitals of the federal units of Brazil, including the capital of the Federal District.

The data collection was carried out in June, July and September 2020. All sources were in the public domain, which exempted submission to the Research Ethics Committee. However, in compliance with Resolution No. 466 of 12 December 2012 of the National Health Council, all ethical and legal aspects were respected.

The searches in the bulletins were guided by scripts, contemplating identification of the state and capital and quantitative cases of Covid-19 by professional category. Given the volume and speed of information in the period, aiming at ensuring the reliability and evolution of published data, the consultations to the health department websites were carried out in 3 different moments, once a month. The information from the bulletins were compiled, analyzed and presented in absolute numbers in the form of graphs. Parallel to this survey, some of the elements involved in the health work process to face the pandemic were searched through the *Centers for Disease Control and Prevention* (2020) website, taking as premise the Hierarquia de Medidas de

Controle (Hierarchy of Controls) proposed by that agency and that seeks to reduce the risks in the work environment, which are presented below.

RESULTS

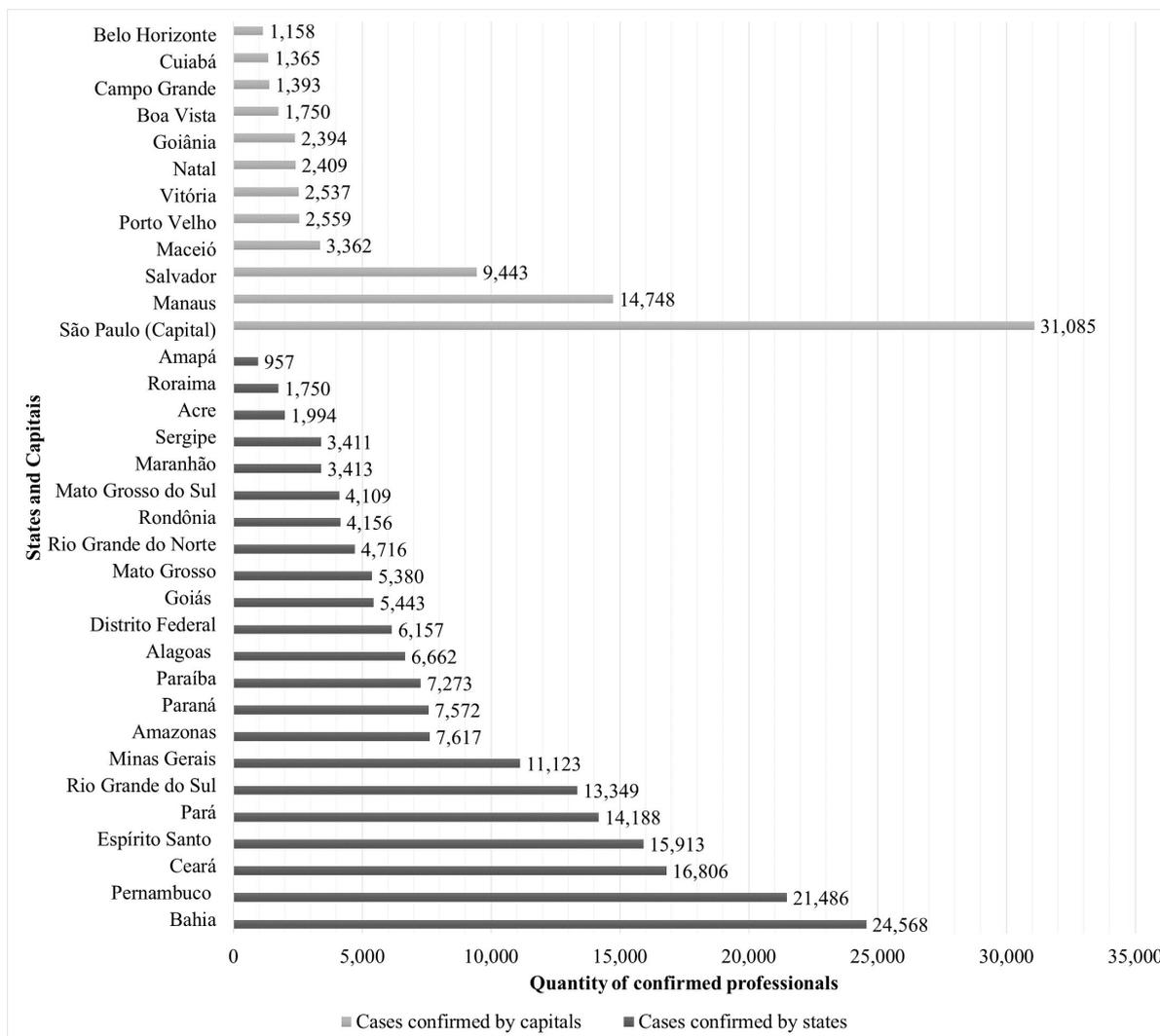
The Hierarchy of Measures of the *Centers for Disease Control and Prevention* (2020) involves engineering and architectural control, safety, administrative, work safety practices and personal protective equipment, which must occur in a combined and simultaneous manner, to protect health service workers from exposure to Coronavirus infections.¹¹ It proposes to identify and intervene in the risks to which professionals are exposed during the work process, aiming at optimizing safety.¹²

As for data from epidemiological bulletins, these reveal that 22 states report cases of COVID-19 among health professionals, accumulating 181,886 infected. Among the states, Bahia (BA)

has the highest number of professionals infected by the virus (24,568), when compared to other states.

Among the municipal secretariats in the capitals, 12 bring information. Alert to the high number of infected people in the city of São Paulo, current epicenter of the disease. Although the São Paulo capital publishes the number of infected professionals, the state epidemiological bulletin of São Paulo does not include them, data presented in Graph 1.

It is worth noting that the special epidemiological bulletins COVID 19, published by the Ministério da Saúde until issue No. 20, epidemiological week 26 (June 2020), make no mention of health professionals in the country, in facing the pandemic, starting the phase of sharing this information in issue No. 21. In issue No. 32 (from 13 to 19-09-2020) are 388,269 infected with Covid-19, the most affected being nursing technicians/auxiliaries, followed by nurses. The disparity between the findings of the MS and states is highlighted.



Graph 1. COVID-19 cases among health professionals, published by September, 18, de 2020.

Source: Epidemiological bulletins of the states and capitals of Brazil

DISCUSSION

In relation to Administrative Controls in the fight against COVID-19, in face of the COVID-19 pandemic, the hospital environment that already has a management that effectively stimulates the patient's safety culture and "finds itself with better working conditions, the assistance practice, the professional's safety, the patient's safety and the quality of care happen in a more adequate way"^{160:13} and less stressful in relation to the work process arrangements to face this health emergency.

In this time of crisis, it is necessary to have in the service a management that ensures work practices and policies that reduce or prevent exposures that increase vulnerability to contamination. The applicability of these administrative controls will depend on the consistent adoption of strategies and the adherence profile of professionals.¹²

Therefore, since December 2019, several health organizations recommend administrative actions to control COVID-19. One of the most common has been to direct professionals only to infected patients, redistributing the team and minimizing circulation in different locations. If reallocation is not sustainable, it is suggested to use the sequence of care, considering patients without suspicion, followed by the suspects and, finally, those positive COVID.¹⁰⁻¹⁴

Another aspect is the use of telehealth in different situations and specialties. Telemedicine was approved in Brazil by Law 13.989/2020, during the pandemic consisting of: tele-orientation, telemonitoring and tele-consultation, performed by the physician for diagnostic and therapeutic support.¹⁵

Its use welcomes citizens who remain at home, through instructions in real time, preventing the exposure of risks to the user and health professionals.¹²⁻¹⁶

Regarding the *engineering and architecture controls in combating COVID-19, applicable to the processes and work environments*, among the measures are physical barriers such as protective covers on stretchers, seats and other components of the structure, installation of obstacles such as glass plates, acrylics or windows for administrative assistance.

Other measures for implementation in the health services include the maintenance of waiting places with abundant and natural ventilation, distance between chairs, organization of spaces and flow of reception and screening of users with suspicion of COVID-19, in addition to performing the classification of areas and laboratory environments, where biological agents are manipulated.¹¹ The difficulty of users and professionals to adopt distance in public spaces is highlighted, given the high demand in relation to the installed capacity of health services. Such behavior can compromise the feasibility of control measures, requiring flow arrangements, according to the context, before the essential need for adherence to these measures.

The approach to the architectural component of health services encompasses other elements, such as circulation patterns, material transportation systems, equipment and solid waste, systems for the renewal and control of air currents and surfaces, and types of easy-to-clean materials. Therefore,

the aspects of barriers, environments, circulations, practices, equipment, facilities, materials, waste and health services fluids are relevant factors to be considered for the work process in the face of the pandemic.

Imperious is the increase of wash basins with dispensers for soap, alcoholic preparations, paper towels, garbage can with lid and pedal opening in receptions, waiting rooms and corridors. It is added the accomplishment of procedures that can generate aerosols in unit of respiratory isolation with negative pressure and HEPA (High Efficiency Particulate Arrestance) filter. In the absence of this system, opt for an environment with closed door and open window, restricting the number of professionals who help, especially during the execution of aerosol generating procedures, in order to minimize the risk inherent to the procedures.¹¹

Regarding the *importance of PPE for the safety of health professionals* - In addition to being essential the use of PPE, ensuring access, quantity, quality and adequate training for the use of this equipment, as well as its disposal, is the responsibility of the employer, regardless of the employment relationship of the workers, integrated with the commitment of the worker in full compliance with use, conservation and disposal. The types of PPE required for the prevention of COVID-19 in health services are based on the activities performed and the biological risk to which the professionals are exposed. In general, the PPE that must be made available for this purpose are cap, protective glasses or facial protector, mask, waterproof apron with long sleeves and procedure gloves.¹¹⁻¹⁷

Although the constant updates of WHO and MS reinforce the importance of PPE, in recent months, several health professionals in Brazil, as much as in other countries, have denounced the lack of these and/or the use of inadequate materials during work activities, further aggravating biosafety in health services. Evidently, the lack of PPE directly affects this group of workers, however, this is only one measure among several that compose COVID-19's hierarchy of control measures.

From this perspective and given the current scenario, a study carried out by the International Public Services (ISP) between March 27 and April 21, 2020 stands out for evaluating the working conditions in Brazil in the face of the pandemic through a questionnaire answered voluntarily by 1,794 professionals, 87% (1,561) of whom are health professionals. The study revealed that 62% of the participants affirm that PPE are insufficient for proper exchange and sanitization, 69% did not receive guidance regarding the protocols of reception to the population and the use of specific PPE.¹⁸

Repercussions on the health of health professionals coming from the process of confronting the pandemic - Being the group with greater risk of contamination due to direct contact with individuals infected by SARS-CoV-2, it becomes mandatory the monitoring for early detection and monitoring of their health.¹⁹ In this group, the nursing professionals represent the greatest number of occurrence, being the nursing technicians the most affected.

Beyond the PPE scenario, these measures have been insufficient to control the spread and exposure to SARS-CoV-2,

since health professionals and unions have constantly denounced precarious working conditions, exhaustive working hours, emotional tension in the face of their own personal, family and social weaknesses.¹²

In view of these vulnerabilities, the protection of the mental and physical health of these workers reinforces the value to guarantee the continuity of the work processes in the various levels of health care. In Brazil, as mentioned above, among the councils of the health area, only COFEN has divulged numbers of nursing categories affected by the disease.

According to the entity, the number of nursing professionals killed, victims of COVID-19 in Brazil exceeds those from countries such as the United States and the United Kingdom and represents around 30% of the total worldwide.⁷

Despite factors such as underreporting, the high number of cases, inconsistency between data from state secretariats and the MS, the delay in the disclosure of official data in the country denotes important weaknesses in the chain of health control of these workers, as well as in the safety of assistance to SUS users. The exiguity of interest focused on the vulnerability of health professionals makes it difficult to monitor the conditions under which professional exercise is being developed. Therefore, the importance of capturing this information, seeking to understand the patterns of illness, as well as identify strategies of integral health care to these workers, is perceived.

Fortunately, this important aspect has been considered, at least, by the Secretaria de Saúde da Bahia (BA) and Sergipe (SE), through the Diretoria de Gestão do Trabalho e Educação na Saúde (DGTES) and of the Vigilância em Saúde do Trabalhador (VISAT), respectively. Since April 2020 (BA) and June 2020 (SE), the agencies have published, weekly and fortnightly, in this order, an informative bulletin of health workers linked to the Secretarias de Saúde of the states, affected by COVID. The data are stratified by test profile, sociodemographic, professional, unit and work management model, type of care provided in the emergency psychological reception - service implemented by DGTES - among other valuable information.

According to the bulletins of these two states, the publication aims to assist the various sectors of the Health Secretariats in the strategic planning of new preventive actions in health to be developed for the health worker who acts in the front-line in the fight against COVID-19.²⁰

Another nod during the pandemic turns to the mental health of health professionals, since in emergency situations the psychic implications, psychological and psychiatric disorders, which can be brought about by the situation itself, are often neglected.²¹

Considering that health professionals are highly vulnerable to infection by COVID-19, they have presented specific triggers for stress, in general, triggered by strenuous work hours, professional exhaustion, precarious working conditions, anxiety and sometimes inexperience at work. Among the stress factors that can affect mental health are the risk of infecting oneself and others; fear of getting sick or dying; incorrect interpretation of the symptoms, since the clinical manifestations of COVID-19 are similar to those

of other pathologies; feelings of inability to protect the sick and the fear that they will evolve to death, in addition to accompanying the excessive loss of human life during work.^{22,23}

When out of their work environment, the emotional burden remains exacerbated by their estrangement from their families for fear of infecting them and the stigma of society, with the prejudgment that they may be contaminated by health care. Thus, these professionals have less and less contact with other people, increasing the feeling of isolation, strengthening the triggering of psychological stress, depression, anxiety disorders, exhaustion, insomnia and deterioration of performance at work.^{24,25}

In addition to psychological care services like those developed by DGTES, it is necessary to implement means to reduce the stress factors of these professionals. It is essential to ensure that they are granted enough breaks, have the opportunity to share with other team members who experience similar tensions and maintain social contact by phone or messages in order to help reduce stress. As much as possible, make efforts to make changes in working hours more flexible in case the professional or close family member shows signs or symptoms of stress and establish clear protocols and assignments in order to avoid disorientation and a feeling of helplessness. Prevention and reduction of stressful factors of health professionals are vital, not only and mainly for them, but also because they are essential to sustain the health system and, in the fight against COVID-19.²⁴

At the foundation of this stressful chain, the fear of becoming infected and the desire for the use of appropriate and correct PPE corroborates the feeling of uncertainty, especially at the time of removal for disposal. Although the PPE that cover the whole body protect more, these types are uncomfortable, in general, of synthetic and waterproof material and, commonly more complex to put and remove.

Furthermore, a study with 542 health professionals from the front-line of care, shows that in 97% of the participants there were short-term epidermis injuries caused by the continuous use of PPE, sometimes preceded by dermatitis such as erythema, papules, macerations and flaking. The most frequently affected skin localities are the nasal region and posterior face of the earlobes with signs of burning, itching and stinging.²⁶

These factors may contribute to the non-adherence to the protocols for combating COVID-19, especially, in terms of appropriate paramentation, during the entire working day and, especially, unattire, which must be carried out with great caution, because it is more favorable to infection by the virus.

Given that the risks during PPE unattire, the *Buddy System* method has been recommended. It is a strategy from which a colleague of the team observes the removal of PPE, with the checklist support. In this way, the professional being assisted must be informed when committing any break of the protocol, at the same time as developing the shared learning among the team members.²⁷

The adversities imposed by SARS-CoV-2 require attention to misadjustments that were already present in daily work before the pandemic. However, they must now be executed in a much

more prudent manner. Factors such as scarcity, poor quality and misuse of PPE, the lack of appreciation of hand sanitizing and the lack of updating on issues of daily work coexisted with other issues. However, at this time, they are accentuated and demanding from everyone, full adherence.²⁸

Therefore, a strong culture of self-protection among health professionals needs to be strengthened and consolidated, because, at the time, it is not only a matter of protecting a certain team, but of protecting professionals, society and the entire Health System.

Self-protection measures, use of appropriate PPE, knowledge of the users' diagnosis, attention in the work process and mutual collaboration among professionals are aspects that must be stimulated, adopted and validated by them and required by the health services management. Furthermore, managers should ensure the conditions and compel, in a dialogical and participative way, the adherence to changes, since many times the professionals are not notified and accepted after the positivation of SARS-CoV-2, making posterior agreement difficult.¹¹⁻²⁸ The current scenario culminates in questions about the quality of care and, mainly, about the safety and health of these professionals.

Thus, the strategic actions of the quality of care and health of professionals include providing instructions and training on safety and occupational health, adherence to clinical management protocols and, as necessary, reduced working hours with appropriate intervals, institution of structures and processes aimed at protecting users and professionals from the disease, self-monitoring in case of symptoms, in addition to the evaluation and control of post-exposure risk to COVID-19, as well as post-disease sequelae.²³

CONCLUSION AND IMPLICATIONS FOR PRACTICE

The pandemic is enabling the unveiling, opening and widening open of the wounds of health professionals, which preceded this period and currently call for support, zeal and help. It has revealed, in a raw and unequivocal way, the perverse portrayal of unequal, segregationist and harmful working conditions for human health to which professionals are exposed and cry out for changes and acknowledgements that result in effective improvements in work and professional valorization.

The current Brazilian scenario demands agility and speed, in a collective effort of the public power, health managers and society for changes in the course and impacts on the safety of health professionals who act in the front-line of the pandemic, in order to spread actions capable of correcting the distortions to which they are submitted, especially the nursing professionals.

Of these, nurses are at the vanguard of the Covid-19 front-line, facing many obstacles so that working conditions and personal safety are recognized and translated into effective policies, support and ongoing consideration, since these professionals are fighting hard against the virus. Furthermore, those directly involved in the reorganization and expansion of services are the ones who are supporting the health of the whole society.

The fragility of the Sistema de Informação em Saúde in Brazil has limited access to the set of accurate information in real time. In this sense, advancing research on this object is recommended and necessary to ensure the protection and life of these professionals.

AUTHORS' CONTRIBUTIONS

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Writing and critical revision of the manuscript. Neuranides Santana. Greice Alves Costa. Sabrina dos Santos Pinho Costa. Larissa Vitória Pereira. Jéssica Vieira da Silva. Ivana Patricia Perrelli Maia Sales.

Approval of the final version of the article. Neuranides Santana. Greice Alves Costa. Sabrina dos Santos Pinho Costa. Larissa Vitória Pereira. Jéssica Vieira da Silva. Ivana Patricia Perrelli Maia Sales.

Responsibility for all aspects of the content and integrity of the published article. Neuranides Santana. Greice Alves Costa. Sabrina dos Santos Pinho Costa. Larissa Vitória Pereira. Jessica Vieira da Silva. Ivana Patricia Perrelli Maia Sales.

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Antonio José Almeida Filho

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