

# Notification of COVID-19 as an occupational injury by health workers: scoping review

Notificação da COVID-19 como acidente laboral por trabalhadores da saúde: scoping review  
Notificación de COVID-19 como accidente laboral por trabajadores de la salud: *scoping review*

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## Abstract

**Objective:** To identify the publications that discussed COVID-19 as an occupational injury and its notification by health workers.

**Methods:** The search for this scoping review explored national and international literature, between 2020 and 2021, in English, Portuguese and Spanish, in the databases of the Regional Portal of the Virtual Health Library, in MEDLINE through PubMed and in Capes Journal Portal used: Embase, Scopus, Web of Science, CINAHL. The texts were imported into EndNote, duplicates were removed and exported to the Rayyan application, and the articles were included in an Excel spreadsheet with the labels: COVID-19 as injuries at work and Notification of COVID-19.

**Results:** A total of 5665 studies were identified, excluding 2088 duplicates, resulting in 3577 publications, selected by title and abstract. Of these, 3280 did not meet the inclusion criteria, resulting in 297 articles. Of these, 10 were selected for full text analysis because they dealt with COVID-19 as an injury at work and/or notification of this condition by health workers. Two articles were excluded because they were a literature review, remaining 8 as the study's corpus.

**Conclusion:** Although certain countries already recognize COVID-19 as an occupational injury, some workers still have difficulties in relating the SARS-CoV-2 infection with work in health care, characterizing it as an occupational injured. Everyone should be guided and trained regarding the recognition of COVID-19 as an occupational injury and notify its occurrence, since the definition of the infection as a notifiable disease already exists.

## Resumo

**Objetivo:** Identificar as publicações que discorreram sobre a COVID-19 como acidente laboral e sua notificação pelos trabalhadores da saúde.

**Métodos:** A busca para esta *scoping review*, explorou literatura nacional e internacional, no período de 2020 e 2021, em inglês, português e espanhol, nas bases de dados do Portal Regional da Biblioteca Virtual em Saúde, na MEDLINE por meio do PubMed e no Portal de Periódicos da Capes empregou-se: Embase, Scopus, Web of Science, CINAHL. Os textos foram importados para o EndNote, suprimido os duplicados e exportados para o aplicativo Rayyan, sendo feita a inclusão dos artigos em planilha Excel com os rótulos/etiquetas: COVID-19 como acidentes de trabalho e Notificação de COVID-19.

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**Conflicts of interest:** none to declare.

**Resultados:** Foram identificados 5.665 estudos, excluindo 2.088 duplicações, resultando 3.577 publicações, selecionadas por título e resumo. Destas, 3.280 não atendiam aos critérios de inclusão, resultando 297 artigos. Destes, 10 foram selecionados para análise completa do texto por tratarem da COVID-19 como acidente de trabalho e/ou notificação deste agravo pelos trabalhadores da saúde. Dois artigos foram excluídos por se tratar de revisão de literatura, permanecendo 8 como *corpus* do estudo.

**Conclusão:** Apesar de determinados países já reconhecerem a COVID-19 como doença ocupacional, alguns trabalhadores ainda apresentam dificuldades em relacionar a infecção pelo SARS-CoV-2 com o trabalho na assistência à saúde, caracterizando como acidente laboral. Todos devem ser orientados e capacitados quanto ao reconhecimento da COVID-19 como acidente laboral e notificar sua ocorrência, uma vez que já existe a definição da infecção como doença de notificação compulsória.

## Resumen

**Objetivo:** Identificar las publicaciones que abordaron el COVID-19 como accidente laboral y su notificación por parte de los trabajadores de la salud.

**Métodos:** La búsqueda para esta *scoping review* exploró la literatura nacional e internacional, durante el período de 2020 a 2021, en inglés, portugués y español, en las bases de datos del Portal Regional de la Biblioteca Virtual de Salud, en MEDLINE a través de PubMed, y en el Portal de Periódicos de Capes se utilizó Embase, Scopus, Web of Science, CINAHL. Los textos fueron importados a EndNote, se eliminaron los duplicados y se exportaron a la aplicación Rayyan, se incluyeron los artículos en una planilla de Excel con la clasificación/etiquetas: COVID-19 como accidente de trabajo y Notificación de COVID-19.

**Resultados:** Se identificaron 5.665 estudios, se excluyeron 2.088 duplicaciones, que dio como resultado 3.577 publicaciones, seleccionadas por título y resumen. De ellas, 3.280 no atendían los criterios de inclusión, por lo que se obtuvieron 297 artículos. De estos, 10 fueron seleccionados para análisis completo del texto porque trataban el COVID-19 como accidente de trabajo o notificación de este daño por parte de los trabajadores de la salud. Se excluyeron dos artículos porque se trataban de revisión de literatura, por lo cual permanecieron ocho como *corpus* de estudio.

**Conclusión:** Aunque determinados países ya reconocieron el COVID-19 como una enfermedad ocupacional, algunos trabajadores aún tienen dificultad de relacionar la infección por SARS-CoV-2 con el trabajo en la atención a la salud, caracterizándolo como un accidente laboral. Todos deben ser orientados y capacitados sobre el reconocimiento del COVID-19 como accidente laboral y notificar su ocurrencia, dado que ya existe la definición de la infección como enfermedad de notificación obligatoria.

## Introduction

COVID-19 is an infectious disease caused by the SARS-CoV-2 virus that has taken on pandemic proportions. Health workers, due to occupational issues, were widely exposed to the virus, a fact found by the report released on 02/11/2020 by the Chinese Center for Disease Control and Prevention, which showed that of the 44 672 confirmed cases, 1716 occurred in health workers.<sup>(1,2)</sup>

In Brazil, the Ministry of Health notified the first case of COVID-19 diagnosed in Sao Paulo on 02/26/2020, with rapid spread of the virus to all states. Data from Epidemiological Week 20 of e-SUS Notifica (05/23/2022) revealed that of the 30 788 607 confirmed cases, 133 324 were health workers.<sup>(3)</sup>

This high risk of coronavirus infection has caused great global health concern for governments, employers and the working class, because during the pandemic many employees needed to remain in their jobs. Decree 10.282/2020 of the Brazilian Civil House defined the “public services and essential activities for the survival, health and safety of the population that should be maintained”. The first category mentioned was health care workers, including medical and hospital services.<sup>(4-6)</sup>

Health workers were on the “front line” of caring for patients infected with the SARS-CoV-2 virus in health settings, where many were contaminated, providing the opportunity to make a causal link between the relationship between COVID-19 and work, classifying the disease as an occupational injury, which in Brazil is defined by Social Security Law 8.213/1991.<sup>(4)</sup>

During 2020 and 2021, little was known about the notification of these cases of COVID-19 as an injury at work or an occupational disease.<sup>(3,6)</sup> Only in May 2022, Ordinance GM/MS nº 1.102 was implemented, which included SARS-CoV-2 on the National List of Compulsory Notification of Diseases, Injuries and Public Health Events in public and private health services, guaranteeing the obligation of notification in the Information System for Compulsory Notification of Diseases.<sup>(7)</sup>

In addition to the recent inclusion in the list of compulsory notification, this study is also justified because it deals with the theme of an emerging pathology, caused by a biological agent with high transmissibility between humans and also due to the need to clarify how to notify COVID-19 as an injury at work.

The objective of this study was to identify in the national and international scientific literature

the publications that discussed COVID-19 as an occupational injury and its notification by health workers.

## Methods

This is a scoping review that followed a systematic approach, based on the Joanna Briggs Institute (JBI). The bibliographical search explored the national and international literature, in an orderly manner, making it possible to analyze and synthesize already published studies, generating a comprehensive view, legitimizing new knowledge. So, phases were set up, which were strictly followed, in accordance with the recommendations of the JBI.<sup>(8,9)</sup>

A theme was selected and, for the construction of the research questions, the mnemonic PICO - Population (P) was used, including health workers, Phenomenon of interest (I), COVID-19 recognized as injuries at work and the notification of COVID-19 as an injury at work, Context (Co), pandemic period.<sup>(8,9)</sup> Therefore, the review questions were prepared: a) Is SARS-CoV-2 infection understood as an injury at work by health workers? b) Is COVID-19 reported as an injury at work by health workers? To answer these questions, searches were carried out in databases, using literature published in 2020 and 2021.

From the PICO elements, search terms were identified in the controlled vocabularies: Health Sciences Descriptors (DECS) via the Regional Portal of the Virtual Health Library, Medical Subject Heading (MESH) through PubMed, Emtree (Embase subject headings) from the EMBASE database (Elsevier).

Searches in the databases of the information portals were carried out in December 2021: Regional Portal of the Virtual Health Library (VHL) under the responsibility of the Latin American and Caribbean Center on Health Sciences Information (BIREME) in its main databases Data - Latin American and Caribbean Health Sciences Literature (LILACS), Spanish Bibliographical Sciences (IBECS), Nursing

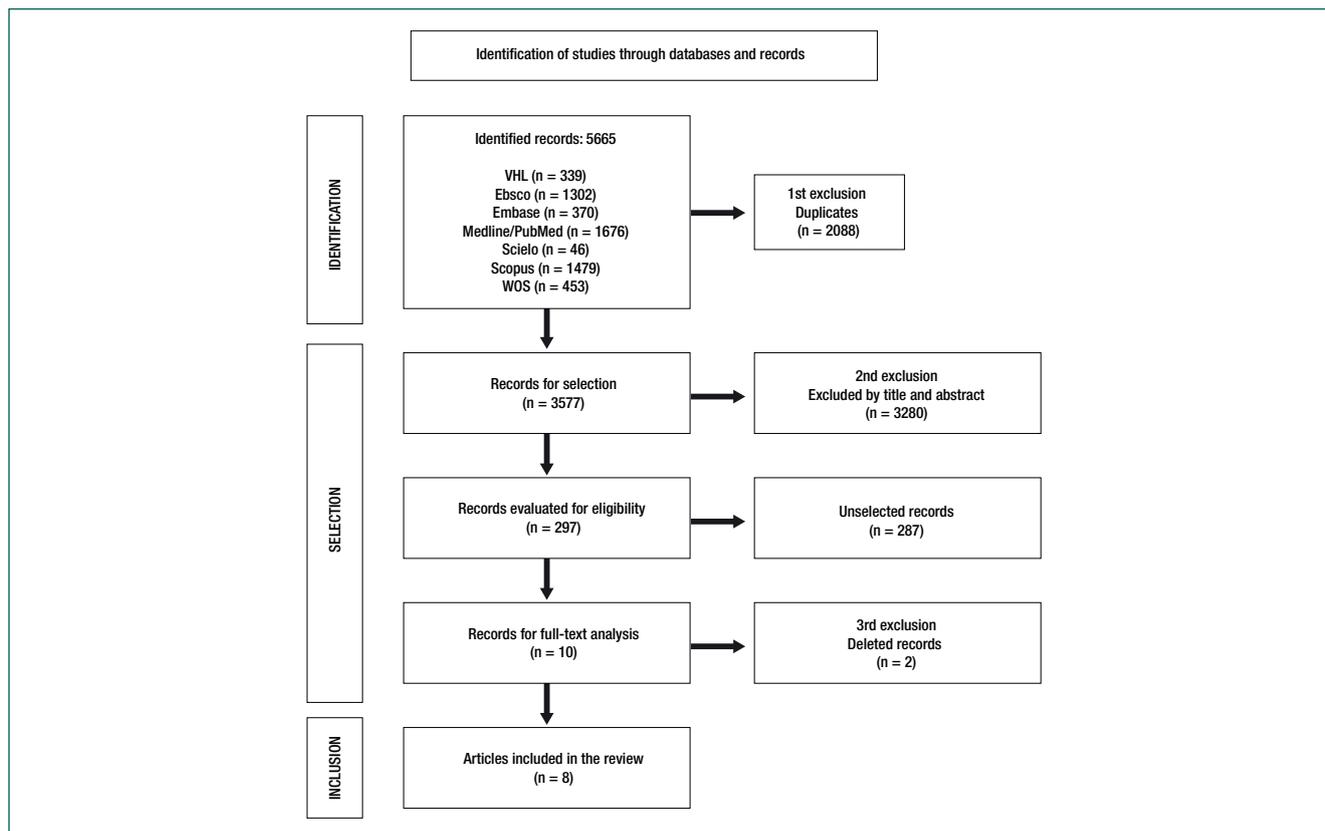
Database (BDENF), Regional Index of the National Information Center on Medical Sciences of Cuba (CUMED). In MEDLINE via PubMed of the National Library of Medicine (NLM) and Scientific Electronic Library Online (SciELO). In the Capes Journal Portal, the following databases were used: Elsevier: Embase and Scopus, Clarivate Analytics: Web of Science, EBSCO: Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Academic Search Premier (ASP). In the combinations chosen for the final selection of articles, associations of sets of terms were used: health workers, injuries at work and notification of injuries at work, COVID-19 pandemic period, using OR and AND Boolean operators (Chart 1).

### Chart 1. Database search strategy

("Acidentes de Trabalho" OR "Riscos Ocupacionais" OR "Exposição Ocupacional" OR "Saúde do Trabalhador" OR "Saúde dos Trabalhadores" OR "Saúde Ocupacional") AND ("Pessoal de Saúde" OR "Profissionais da Saúde" OR "Trabalhador de Saúde" OR "Trabalhadores da Saúde" OR "medico" OR "enfermagem" OR "enfermeir" OR "enfermeira" OR "enfermer" OR "Equipe de Assistência ao Paciente" OR "Equipe Multiprofissional" OR "Equipe de Saúde" OR "Corpo Clínico" OR "Notificação de Acidentes de Trabalho" OR "Comunicação dos Acidentes de Trabalho" OR "notificação" OR "Notificação de Doenças" OR "Doença de Notificação" OR "Doenças Notificáveis" OR "Notificação Compulsória" OR "Notificação de Doença" OR "Sistema de Informação da Saúde" OR "Sistemas de Informação de Saúde" OR "Sistemas de Informação sobre Sangue" OR "Sistemas de Informações em Saúde") AND (pandemias OR COVID-19 OR "Novo Coronavírus" OR "Coronavírus 2019-nCoV" OR "Coronavírus de Wuhan" OR "Epidemia por 2019-nCoV" OR "Coronavírus de Wuhan" OR "Infecções por Coronavírus" OR "Coronavírus de 2019-2020" OR "Doença por Coronavírus 2019").

Scientific texts identified in the databases were imported into EndNote and duplicate records were suppressed, resulting in the selected articles, which were exported to the Rayyan application of the Qatar Computing Research Institute to be analyzed and the inclusion or exclusion of texts to be decided.<sup>(10)</sup>

From this first stage, the control of the process of inclusion and exclusion of the literature from the full texts was carried out in an Excel spreadsheet generated from Rayyan with identification of labels. Namely: COVID-19 as injuries at work and Notification of COVID-19. There was elimination by reading the title and abstract, leaving the records evaluated for eligibility. Of these, those that were not elected were excluded, resulting in the records for full text analysis, which after careful evaluation were still eliminated, resulting in the final inclusion of 8 texts in the scoping review.<sup>(8-12)</sup>



**Figure 1.** PRISMA-ScR\* flowchart for inclusion of manuscripts  
Source: Adapted from Unal O. (13)

The excluded articles did not meet the proposed objective. They were research on occupational risks, preventive measures and use of PPE, mental illness, leave and return to work, general characteristics of COVID-19, evaluation of contacts and transmission of the SARS-Cov-2 virus, review of the literature, case reports, vaccines, post-COVID-19 syndrome, legislation and protocols related to COVID-19, legislation on workers’ health, vulnerability of health workers.

In figure 1, the PRISMA flowchart, (11) adapted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses instructions, demonstrates the totality of bibliographic searches and the process of selection and final inclusion of studies. (8-10, 12) For the set of articles used, a complete reading was performed and the variables collected in the texts were defined and categorized in a new Excel spreadsheet. The review of the most relevant findings of each text was presented in a synoptic table format.

## Results

A total of 5665 studies were identified, excluding 2088 duplicates, resulting in 3577 publications to be selected by reading the title and abstract. Of these, 3280 articles did not meet the inclusion criteria, resulting in 297 articles evaluated for eligibility. Of the 297 studies, only 10 were chosen for full text analysis because they specifically dealt with COVID-19 as an injury at work and/or notification of this condition by health workers. After systematic peer review, 2 articles were excluded because they were a literature review, with 8 articles remaining as the study’s corpus. Of the articles included in the synthesis, 3 were published in 2020 and 5 in 2021, with international and national geographic distribution: Turkey (n=1), Portugal (n=1) Germany and Malaysia (n=1), Germany (n=1), Brazil (n=1), India (n=1) and Croatia (n=2). From the selected texts, the following variables were extracted: country, database, population, data collection period, study lo-

**Chart 2.** Summary of articles included in the scoping review

Nº	Country, Database	Population, Period of data collection, Study location	Objective	Conclusion
1	Turkey, <sup>(13)</sup> Embase.	326 health workers (doctors, nurses, other health professionals). May 1 <sup>st</sup> to 10 <sup>th</sup> /2020. Yenikent State Hospital, Sakarya Province, Turkey.	To determine whether safety awareness and skills or perception of fatalism are more effective in healthcare worker OHS applications.	Health workers are generally aware of OHS while working. It is recommended that managers take steps to increase OHS practices.
2	Portugal, <sup>(2)</sup> SciELO.	41 health workers (operational assistants, nurses, doctors, senior technicians, diagnostic and therapeutic technicians). March to July/2020. Portuguese Institute of Oncology of Porto Francisco Gentil, Portugal.	To evaluate and characterize presumed cases of occupational disease among workers with COVID-19, considering the causal link, individually.	The main sources of nosocomial transmission with a causal link are patients with COVID-19. Individual and collective protection measures must be guaranteed by employers and used by workers who must be instructed in correct use and infection control.
3	Germany <sup>(14)</sup> MEDLINE/ PubMed.	8762 healthcare workers in Germany (doctors, nurses, physiotherapists). May/2020. BGW, Germany. 6894 Malaysian health workers (unidentified categories). May/2020. Malaysia.	To report cases of SARS-CoV-2 and COVID-19 infections in healthcare workers in Germany. To issue a report on the COVID-19 situation for health workers in Malaysia	In Germany, 8762 cases were notified to the injury insurer BGW. However, only 2192 were confirmed as occupational diseases in health workers and welfare. However, there is underreporting because not all requests had been evaluated. Malaysia shows the stress and stigma that health workers faced during the COVID-19 pandemic.
4	Germany, <sup>(15)</sup> Embase.	67,781 health workers (doctors, nurses, nursing assistants, medical assistants, physiotherapists). May/2020 to May/2021. BGW, Germany.	To update the number of claims of health workers with COVID-19 as an occupational disease.	In this update, 53 472 cases of COVID-19 have been confirmed as an occupational disease by the BGW in Germany. However, the number is expected to increase as complaints are being evaluated and continue to be filed.
5	Brazil, <sup>(6)</sup> VHL.	2012 health workers (nursing technician, nurse, doctor, administrative assistant, hygiene, physiotherapist, laboratory technician, pharmacist, pharmacy assistant, CHA, ECA, Stretcher bearer, dentist, psychologist, nutritionist). April to August/2020. CEREST from Salvador, Brazil	To know the working conditions, the possibilities of contamination and the chronology of the disease, in order to confirm or exclude its relationship with work	The epidemiological investigation of work-related COVID-19 cases provided the situational diagnosis of COVID-19 among health workers in the city, reaffirmed the relevance of training, continuing education actions on the prevention of COVID-19; organization and management of work with planning of surveillance actions in environments and work processes.
6	India, <sup>(16)</sup> Embase	69 health workers (medical team, paramedical team, nursing team and tertiary care assistants). 18 <sup>th</sup> to 27 <sup>th</sup> of May/2020. Chandigarh Tertiary Health Centers (UT), India.	To describe OHS in the healthcare setting. To outline healthcare professionals' views on their concerns related to the COVID-19 pandemic.	OHS must promote a safe work environment, however, during COVID-19 workers reported the risks they faced in work environments.
7	Croatia, <sup>(17)</sup> MEDLINE/ PubMed.	59 health professionals (nurses or laboratory technicians, doctors), May to November/2020. 08 Croatian counties. Croatia,	To describe and analyze the characteristics of work-related COVID-19 in Croatian health professionals.	Croatian nurses/laboratory technicians had a mild form of COVID-19 with a non-hospital treatment. Respiratory comorbidities suggest a risk of severe forms.
8	Croatia, <sup>(18)</sup> MEDLINE/ PubMed.	100 health workers (doctors, nurses, laboratory technicians, cleaners, other professions). June to December/2020. Clinical Hospital Center (CHC)-Rijeka, Croatia.	To present the incidence and symptoms of COVID-19; Recognize and register COVID-19 as an occupational disease;	As soon as SARS-CoV-2 infection in healthcare workers was classified as an occupational disease, the Croatian Health Insurance Fund provided full benefits including paid sick leave and psychological support to affected workers.

CHW - Community Health Worker; ECA - Community Worker for Endemic Diseases; CEREST - Occupational Health Reference Center; SINAN - Compulsory Notifiable Diseases Information System; BGW - Institute for the Prevention and Statutory Insurance of Injuries in Health and Welfare Services (*Professional association for health and welfare service*); OHS Occupational Health and Safety

cation, objective and conclusion, whose data were organized and presented in Chart 2.

## Discussion

The epidemiological data of the texts included in this synthesis revealed that health workers had their diagnoses of COVID-19 confirmed by laboratory detection, with the performance of RT-PCR (Reverse-Transcriptase Polymerase Chain Reaction),<sup>(2,14,15,18)</sup> as requested by the Health Institution. There was a predominance of women,<sup>(2,4,13,14,16-18)</sup> aged between 20 and 43 years old<sup>(4,13,14,18)</sup> and nursing professionals.<sup>(4,13-15,17)</sup>

Searching the general literature, records of health workers who had COVID-19 were found in Italy (20%), China (3,300 cases), Nigeria (134 cases), Spain (19.9%), United States (18%) and

France (490 cases).<sup>(19,20)</sup> In January 2021, around 1.29 million cases of COVID-19 in health workers had been accounted for globally by the World Health Organization,<sup>(21)</sup> about 1.29 million cases of COVID-19 in health workers,<sup>(21)</sup> being women (67.8%), mean age of 35.68 years old, nurses (62.5%), followed by doctors (15.8%),<sup>(21)</sup> results similar to those of this study.

These characteristics may be related to the predominance of the productive age group in the work environment, as well as the greater frequency of women linked to “the care process” in the search for resolution of patients’ problems, anchored in technical and scientific knowledge, characteristic of the nursing profession.<sup>(22)</sup>

During the pandemic period, many health workers saw and experienced a personal and organizational change in their work environments and processes, while assisting the excessive num-

ber of patients victimized or suspected of contamination by SARS-CoV-2 who sought care. The work carried out in closed and overcrowded environments, the shortage of PPE and the long hours favored contact with biological risk and, consequently, illness and removal, leading to a reduction in the number of health teams that was already scarce due to the absence of workers from the group of risk, whether due to age or comorbidities.<sup>(19,23,24)</sup>

The need for close contact (less than 1 meter) while caring, whether in clinical examinations and necessary procedures in the care of patients with clinical conditions that ranged from mild to severe, which could lead to death, generated concern for personal safety and family, stress, physical exhaustion and psychological distress in health workers who had an increased workload permitted by Provisional Measure No. 927/2020<sup>(25)</sup> in its Art. 26 “[...] health establishments are allowed [...]: I.- extend the working day [...]; II - adopt a schedule of overtime hours [...], favoring increased professional exhaustion, due to overload, pace, pressure due to the volume of work, overtime and reduction of rest breaks.”<sup>(19,23-25)</sup>

So, many workers, despite being physically and emotionally exhausted, kept their shifts, although there was job insecurity and their personal, emotional, behavioral and productive condition was lower, typifying presenteeism which, in turn, may be associated with the Burnout syndrome, which is characterized by professional exhaustion.<sup>(26,27)</sup>

The 8 articles analyzed in this study, that is, all of them recognized COVID-19 as work injury or occupational disease. In Brazil, the work injury is defined by Social Security Law 8.213/1991: “It is what occurs due to the exercise of work, at the service of a company [...], causing bodily injury or functional disturbance that causes death, loss of or reduction, temporary or permanent, of the ability to work.”<sup>(28)</sup>

By legal determination, occupational disease (produced or triggered by the exercise of work peculiar to a certain activity [...]) and occupational disease (acquired or triggered due to special condi-

tions in which the work is carried out and is directly related to it [...]).<sup>(28)</sup>

The disease can be considered occupational when there is a causal link between the disease and work,<sup>(29)</sup> mentioning, among the criteria, the Schilling Classification (1984)<sup>(4)</sup> which points to Group II - work as a contributing factor to a disease of multicausal etiology, in this case, being able to define the causal nexus of the involvement of COVID-19 in health workers participating in the research.

Anchored in Turkish legislation,<sup>(14)</sup> some authors<sup>(14,30)</sup> cite Law n° 6.331/2012 – “Occupational Health and Safety”, which defines an injury at work as “an event that occurs in the workplace when the worker is affected in the exercise of their functions or working conditions, which may cause death or physical, body or mental disability”.<sup>(13,30)</sup> And occupational disease, as a disease resulting from exposure to occupational hazards”.<sup>(13,30)</sup>

In the articles analyzed in Turkey,<sup>(13)</sup> Portugal<sup>(2)</sup> and India,<sup>(16)</sup> the involvement of health professionals by COVID-19 was treated as an injury at work, occupational disease and occupational disease, in that order. The General Directorate of Health in Portugal and the Central Administration of the Health System have recognized COVID-19 as an occupational disease.<sup>(2)</sup> An interesting piece of data in the Indian article<sup>(16)</sup> was that 25.3% of participants responding to the Likert Scale “disagreed and strongly disagreed that COVID-19 was understood as an occupational disease”, which may demonstrate the research participants’ lack of knowledge about the relationship between SARS-CoV-2 infection and work in health.

The articles from Germany<sup>(14,15)</sup> and Malaysia,<sup>(14)</sup> request that cases of COVID-19 be confirmed as an occupational disease, emphasizing that German legislation makes a distinction between health workers in health institutions (hospitals, clinics and practices) and those working in care facilities for older adults, disabled, refugees, mass housing and prisons.

The occupational disease to which COVID-19 fits applies only to health workers, social workers, laboratories and activities with a high risk of infection. Suspected cases are registered with the

Institute for the Prevention and Statutory Insurance of Injuries in Health and Welfare Services (BGW) and subsequently analyzed to determine whether they were work-related.<sup>(14,15)</sup>

The German update article<sup>(15)</sup> and those from Croatia<sup>(17,18)</sup> sought to recognize COVID-19 as an occupational disease. In Croatia<sup>(17,18)</sup> the Occupational Health Society warned against recognizing COVID-19 as an occupational disease.

In Portugal<sup>(2)</sup> and Brazil,<sup>(4)</sup> proof of the disease-work relationship is requested, that is, that the causal link be established, which is the factual link that links the effect (health hazard) to the cause (labor activity) for subsequent recognition of occupational disease.<sup>(31)</sup>

In this study, notification of COVID-19 was cited in 6 of the 8 articles.<sup>(2,4,14,15,17,18)</sup> In these, notifications were made to injury insurers and public health services. Some insurers, as seen in Portugal,<sup>(2)</sup> required confirmation of COVID-19 cases through laboratory tests to elect benefits, with physicians obliged to register all suspected cases of occupational disease, for later confirmation.<sup>(2)</sup>

In Germany,<sup>(14,15)</sup> in a one-year period, there was a significant increase in the records of COVID-19 cases in health and wellness professionals, with numbers ranging from 2192 cases in May/2020 to 53472 cases in May/2021 that have been confirmed as an occupational disease.

In Croatia,<sup>(17,18)</sup> approximately a total of 100 health workers asked the occupational physicians to notify the SARS-CoV-2 infection as an occupational disease so that the Croatian Health Insurance Fund could reimburse workers of health with financial benefits, treatments and psychological support.

In Brazil, at the beginning of the pandemic in 2020, the notifications of health workers affected by COVID-19 were negligible,<sup>(32)</sup> as the occupational groups were not identified, favoring the underreporting of sick health workers.<sup>(4,32)</sup> Subsequently, it was advised that confirmed work-related cases of COVID-19 should be reported on the SINAN Work Injury Notification Forms and, for Social Security insured workers, the company should issue the Reporting of Injuries, Diseases and Dangerous Occurrences (RIDDOR).<sup>(32-34)</sup>

## Conclusion

In the researched literature, there was a predominance of women, nursing professionals from 20 to 43 years old, economically active age group and predominant gender among servers in the health area related to care. The increase in the number of consultations, the shortage of PPE, as well as the stay in closed environments for long hours created an environment conducive to infection and viral spread among health workers. Many professionals needed to maintain a high workload or adopt overtime schedules to act in the fight against the pandemic, due to the absence of others because of factors related to comorbidities or the infection. This scenario favored the physical, mental and professional exhaustion of the active workers. Only 8 articles of the total evaluated for this study recognized COVID-19 as an occupational injury or occupational disease. As in Brazil, the legislation of different countries defines an injury at work as a typical injury that occurs in the workplace or at the company's service, which can cause bodily injuries with temporary or permanent leave, and even culminate in disability or death. Occupational diseases result from risk factors existing in the work environment, which may be chemical, physical, biological, ergonomic or injuries, among others. Although some countries already recognize COVID-19 as an occupational disease, some workers still have difficulties in relating the SARS-CoV-2 infection with work in health care, characterizing it as an occupational injury. It is important to note that some countries request confirmation of cases of COVID-19 through laboratory tests to elect benefits, and doctors must register all suspected cases of occupational disease for later confirmation. In Brazil, due to the non-identification of occupational groups at the beginning of the pandemic, notifications for this group of workers were negligible, leading to an unknown scenario, linked to underreporting of illness among health workers in official systems. Therefore, to guarantee the rights of health workers, everyone should be guided and trained regarding the recognition of COVID-19 as an occupational injury and always report its occurrence, since the infection is defined as a notifiable disease.

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