Original Research Article

Impact of the COVID 19 Pandemic on Health Care Workers in Latin America and the Caribbean

ABSTRACT:

Objective: The objective of this research was to analyze official data on the impact of the COVID-19 pandemic on Latin American and Caribbean health care workers. **Materials and Methods:** The methodology used was documentary, exploratory and descriptive research. The data were collected from official reports of international organizations such as the World Health Organization, the International Labor Organization and figures provided by the different official spokespersons of the Latin American countries studied, for the period March 2020 - August 2021. **Results:** The results showed that the top three countries with the highest number of infected and confirmed healthcare workers were Brazil with a total of 503,238 cases, Mexico with 244,711 cases and Argentina with 96,626 cases. The top three countries with the highest number of deaths of health personnel from this cause are Mexico with 4,084 cases, Peru with 1,399 cases and Brazil with 703 cases. Similarly, the countries with the highest fatality rates are Venezuela with 4.6%, Peru with 1.9% and Mexico with 1.7%. **Conclusion:** It can be concluded that this pandemic has directly affected health professionals in Latin America and the Caribbean, representing one of the greatest challenges ever faced by these professionals in the performance of their duties.

Keywords: COVID-19, Latin America, Health care Worker

INTRODUCTION:

In September 2019 the World Health Organization[1] published a report alerting the world of the imminent risk of the emergence of a global pandemic, and it took only a few months, when in December 2019 in China, for the new SARS-Cov-2 coronavirus, which cause the COVID-19 pandemic was reported. This new pandemic affected all regions of the world, advancing relentlessly and leaving unrest and desolation in its wake [2].

The COVID-19 pandemic has spread rapidly throughout the world including Latin America and the Caribbean. According to the different reports, declarations and

documents published by the Pan American Health Organization [3] and the World Health Organization[1], the first case of covid-19 in this region occurred in Brazil on February 25, 2020. This was followed by Mexico on the 28th and Ecuador on the 29th of the same month and in the same year.

It was also reported by the Pan American Health Organization [3], that the health sector already has more than 570,000 sick people and around 2,500 deaths. Of that group, 72 percent are women, and the majority are between 30 and 49 years old. A rigorous search for information on the impact of COVID-19 infection on health care workers revealed that this pandemic has magnified the risk experienced by frontline health care workers, who have no choice but to expose themselves to the conditions and risks associated with their work [4].

Unfortunately, in the face of the accelerated spread of the coronavirus, the countries that make up Latin America continued to maintain a healthcare system characterized by inequity, segmentation and a funding crisis. Although in these Latin American countries the spread of the disease began late with the European and Asian continents, no studies have been published that indicate or compile data on occupational exposure of healthcare personnel at the local (country) or regional level, in this geographical area [5]. Health care workers whose responsibility is to save lives are faced with a lot of challenges due to lack of adequate guidelines, not having specialized areas dedicated to patients with COVID-19, much less with the personal protective equipment recommended by the World Health Organization, It should be noted that working under enormous pressure during this time has also had a strong mental and psychological impact on health care workers, including isolation from friends or family.

According to the publication of the Pan American Health Organization [3] health care workers are worried due to the working condition in the face of the COVID-19 pandemic. In Chile for instance almost 70 percent of health workers are worried about contracting COVID-19 while in Peru and Mexico, health care workers are unwilling to work due to the lack of personal protective equipment (PPE). In Argentina, the scientific groups on COVID-19 cautioned that health personnel should take extreme care to stop the increase in the number of cases among this group.

Health personnel in some countries that have already started their vaccination programs are not considered a priority group as they have to wait to be vaccinated. This is either due to lack of supply, problems in the implementation of vaccination plans, or a limited definition of the concept of a health professional. For instance in countries like

Brazil and Peru, where vaccination of healthcare personnel began in January and February 2021, respectively, health professional organizations have condemned the vaccination process as they are not vaccinating cleaning and waste collection personnel, despite their exposure to the virus, while management and administrative personnel have been vaccinated before front-line workers[6].

Given this reality, what is the real dimension of this pandemic regarding human health care workers in Latin America? What is the real impact of the COVID-19 pandemic on human health care workers in Latin America? Given these questions, the objective of the research is to analyze the official figures on the real impact of the COVID-19 pandemic on health care workers in Latin America.

MATERIALS AND METHODOLOGY:

The research was carried out during the year 2021, taking figures from official entities in the period from March 2020 to August 2021, based on an exploratory and descriptive literature review on the health situation of Latin American health workers in times of COVID-19.The data were collected from official reports of international organizations such as the World Health Organization (WHO).The population consisted of health personnel from the Latin American countries that were affected by COVID-19 and the sample consisted of health personnel from the first twenty-three (23) countries that had the highest rates of health personnel affected by the pandemic in Latin America.

A search for documentation was carried out on the official web pages of the different Latin American countries. The selection criteria for the documents were related to the following aspects: that they should be documents from official sources in Latin American countries; that each of them should report on the situation of health personnel and that the information should be within the period from March 2020 to August 2021. To carry out the research, a database was designed, with which the information collected was processed through the Excel program version 2007; the data were presented with simple frequencies and percentages. Descriptive analysis was obtained in tables with distribution (absolute and percentage).

Ethical Considerations:

Occupational health and safety professionals, in addition to ensuring the protection of the health and well-being of workers, must respect human dignity, be impartial and, above all, safeguard the confidentiality of data on the health and privacy

of workers. For this reason, in the present investigation, strict care was taken in the collection of data, which were exclusively official data from governmental entities or organizations of the countries that have published their figures on COVID-19 infections and/or deaths, or from organizations certified to provide information, to avoid speculation or to avoid being multipliers of unofficial or false information. All of the above in order to comply with ethical values at the time of elaborating the final product, based on the International Code of Ethics for Occupational Health Professionals.

RESULTS:

The COVID-19 infection rates of Latin American healthcare personnel for the period of March 2020 to August 2021 show the main countries with the highest infection rates are El Salvador with 7.9%, Mexico with 7.7%, and Suriname with a rate of 6.3%. The absence of data for countries such as Cuba and Nicaragua is noteworthy because there are no published figures from official sources (Table 1 and Figure 1).

With regards to the COVID-19 fatality rate for Latin American healthcare personnel from the period March 2021 to August 2021, the first countries with the highest COVID-19 fatality rate for Latin American healthcare personnel are Venezuela with 4.6%, Peru with 1.9% and Mexico 1.7%. The absence of data for countries such as Cuba and Nicaragua is noteworthy because there are no published figures from official sources (Table 2 and Figure 2).

DISCUSSION

Since the end of 2019, mankind has been exposed to the new coronavirus known as COVID-19, with the first confirmed case on December 1, 2019, in Wuhan city of Hubei province in China. The virus spread rapidly on a community, regional and international scale [4].

Therefore, it is undeniable that, with the pandemic, human activity has been altered in all its dimensions. Its impact has been felt not only in the number of infections and deaths, but in all spheres of human life [7]. This impact has had repercussions throughout the world, especially among the so-called front-line or health personnel, who, according to official sources, are very compromised by COVID-19.

However, a look at the different reports, declarations and documents of the Pan American Health Organization [3] and the World Health Organization[1] during the period studied shows that the first Latin American country with the highest number of

front-line or health personnel infected and confirmed with COVID-19 was Brazil, with a total of 503.238, This finding is consistent with Ron [4], who points out that the PAHO epidemiological update of September 7.2020, shows the situation of health care workers in Brazil and that up to that date it was the country with the highest number of health care workers infected with COVID-19 in the region with a total of 288.936 confirmed cases of COVID-19, among which were technicians and nursing assistants with 102.788 cases, followed by nurses with 43.886 cases and physicians with 30.834 cases.

It is worth mentioning the infection rate, in regard to this indicator; the country with the highest infection rate for this indicator is El Salvador with a rate of 7.9, followed by Mexico with 7.7 and Suriname with 6.3. The data provided diverge from those of Maceira [8], who states that eight of the fifteen countries with the highest number of infected people belonged to: Peru, Chile, Brazil, Argentina, Colombia, Costa Rica, Bolivia and Dominican Republic.

Another aspect to consider is the case fatality rate, which in the review conducted, it was observed that Venezuela has the highest case fatality rate in Latin America and the Caribbean with 4.6%, which does not coincide with Echeverria and Sueyoshi [9], who in their study point to Venezuela with a case fatality rate of 4.76%; however, according to these authors, this is not the highest rate among Latin American countries; the highest rate for them is Bolivia with 7.90%.

CONCLUSIONS

Health personnel are more vulnerable to be infected with COVID-19 than other groups of workers, because their work exposes them to direct contact with the Covid-19 patients.

For the period March 2020 - August 2021, the top three countries with the highest numbers of infected healthcare workers are Brazil, Mexico and Argentina. In addition, Mexico, Peru and Brazil are among the top three countries with the highest number of deaths of health personnel due to this cause. Similarly, the countries with the highest case fatality rates are Venezuela, Peru and Mexico.

Another aspect that stands out in the research is that countries such as Cuba and Nicaragua lack official figures on cases of infection and fatality due to the virus among

health personnel. It should be noted that the survey did not find any data from these countries endorsed by official authorities of these countries.

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Table 1: COVID-19 infection rates of Latin American healthcare personnel for the period of March 2020-August 2021.

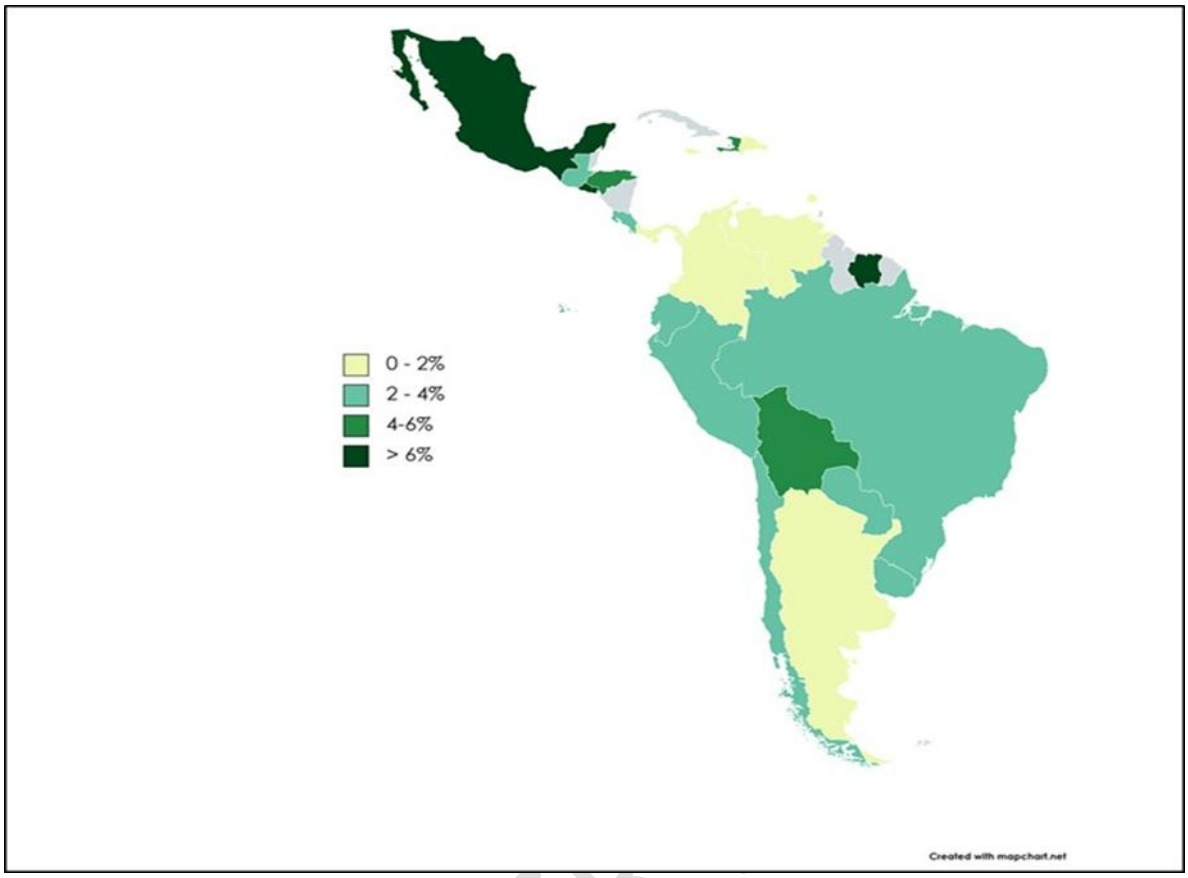
Country	Date	Country Cases	Confirmed Cases	Infection Rate
El Salvador	22/07/2021	84.144	6.609	7,9%
México	20/08/2021	3.197.108	244.711	7,7%
Surinam	20/08/2021	27.210	1.722	6,3%
Bolivia	20/08/2021	485.184	27.791	5,7%
Honduras	22/07/2021	285.375	13.668	4,8%
Haití	22/07/2021	19.627	808	4,1%
Chile	20/08/2021	1.632.441	63.641	3,9%
Paraguay	20/08/2021	457.472	17.364	3,8%
Perú	20/08/2021	2.140.062	73.079	3,4%
Costa Rica	20/08/2021	440.647	14.838	3,4%
Ecuador	20/08/2021	495.115	12.262	2,5%
Brasil	20/08/2021	20.528.099	503.238	2,5%
Uruguay	20/08/2021	383.903	8.970	2,3%
Guatemala	22/07/2021	344.221	7.152	2,1%
Argentina	20/08/2021	5.124.963	96.626	1,9%
Jamaica	22/07/2021	51.542	861	1,7%
Colombia	20/08/2021	4.883.932	65.081	1,3%
Panamá	22/07/2021	656.923	8.663	1,3%
Venezuela	20/08/2021	322.757	4.212	1,3%
Granada	20/08/2021	196	1	0,5%
República Dominicana	20/08/2021	347.370	1.409	0,4%
Cuba	-	-	-	-
Nicaragua	-	-	-	-

Source: Research data (2021)

Table 2: Case fatality rate by COVID-19 of Latin American health personnel for the period of March 2020 - August 2021

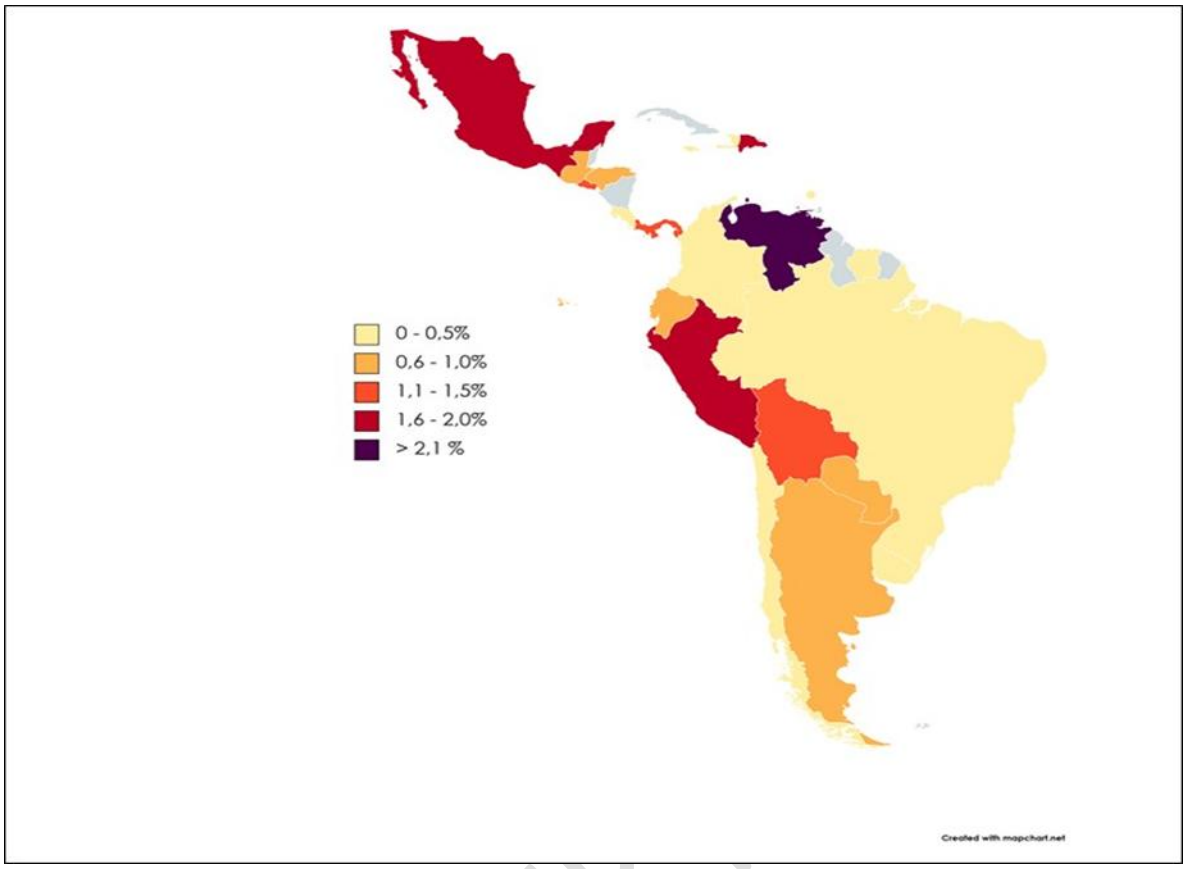
Country	Date	Country Cases	Number of Deaths	Health personnel fatality rate
Venezuela	20/08/2021	322.757	194	4,6%
Perú	20/08/2021	2.140.062	1399	1,9%
México	20/08/2021	3.197.108	4084	1,7%
República Dominicana	20/08/2021	347.370	22	1,6%
Panamá	22/07/2021	656.923	112	1,3%
Bolivia	20/08/2021	485.184	357	1,3%
El Salvador	22/07/2021	84.144	72	1,1%
Ecuador	20/08/2021	495.115	121	1,0%
Guatemala	22/07/2021	344.221	65	0,9%
Paraguay	20/08/2021	457.472	153	0,9%
Honduras	22/07/2021	285.375	115	0,8%
Argentina	20/08/2021	5.124.963	597	0,6%
Colombia	20/08/2021	4.883.932	322	0,5%
Jamaica	22/07/2021	51.542	4	0,5%
Costa Rica	20/08/2021	440.647	53	0,4%
Uruguay	20/08/2021	383.903	28	0,3%
Chile	20/08/2021	1.632.441	128	0,2%
Surinam	20/08/2021	27.210	3	0,2%
Brasil	20/08/2021	20.528.099	703	0,1%
Haití	22/07/2021	19.627	1	0,1%
Granada	20/08/2021	196	0	0,0%
Cuba	-	-	-	-
Nicaragua	-	-	-	-

Source: Research data (2021)



Source: Research data (2021)

Figure 1. Geographic localization of healthcare personnel infection rates by COVID-19.



Source: Research data (2021)

Figure 2. Geographic location of healthcare personnel case fatality rates by COVID-19.