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LETTERS TO THE EDITOR

EPIDEMIOLOGICAL SITUATION OF COVID-19 IN SOUTH AMERICA

SITUACIÓN EPIDEMIOLÓGICA DEL COVID-19 EN SUDAMÉRICA

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Mr. Editor

Currently the coronavirus (COVID-19) infection has become a public health problem worldwide. In December 2019, in the city of Wuhan, province of Hubei, China, the first cases of pneumonia of unknown etiology were reported, which incremented rapidly in other provinces of the country(1).

Subsequently, SARS-CoV2 was identified as the causal agent and in mid-January 2020, the World Health Organization (WHO) reported over 280 confirmed cases of COVID-19 in China, Thailand, Japan and Korea(2).

In South America, the first case of COVID-19 is made known on February 26, 2020 in the city of Sao Paulo, Brazil, identified as a male patient of 61 years of age from the region of Lombardy in Italy. Soon after there were other confirmed cases imported from the Asian and European continents in other south American countries(3).

Up until April 14, 2020, there have been 1.983.219 COVID-19 cases reported worldwide, of which 2.84% are found in South America. Brazil is the country that has the greatest number of people infected (24,232), concentrated mainly in Sao Paulo and Rio de Janeiro. Peru is second place with 10,303 confirmed cases, with numbers multiplying in the last 5 days. This increase is affected by the number of tests performed and the lack of adherence to measures established by the government by one group of the population, causing conglomerations in the supermarkets, markets and public transport.

In Peru, men represent 73.9% of total COVID-19 confirmed cases, with the majority of those infected in the country's capital (Lima), a tendency that is repeated in other Latin American capitals, while in Chile 50.09% of positive cases correspond to the female gender. The comorbidities identified with greater frequency in fatal cases were cardiovascular diseases (hypertension) and diabetes mellitus (Peru, Chile and Brazil)(4,5).

As far as mortality from COVID-19 in South America, Ecuador takes the lead, presenting so far, a mortality rate of 2 per 100 thousand inhabitants, followed by Peru with 0.7 per 100 thousand inhabitants.

Despite Chile being one of the South American countries that concentrates the majority of SARS-CoV2 infected people, it has the lowest fatality rate in the region (1.6%), followed by Uruguay, even lower than Japan (1.87%). This is due to the measures their authorities have taken to stop the spread of disease which includes the ability to identify infected patients and isolate them early on, a strategy that the World Health Organization has emphasized; achieving so far the greatest number of tests per million inhabitants in the region, after Venezuela. Currently Peru has adapted these measures aggressively and is the second country with greater number of diagnostic tests in Latin America, with 102,2016 between rapid tests and molecular tests. (See Table 1)

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Table 1. Statistical data on COVID-19 in South America, 2020.

South American countries	First reported case	Quarantine start	Confirmed cases	Deaths	Lethality	Total evidence	Evidence / Million
Argentina	March 3	March 20	2.277	102	4.47%	22.805	505
Bolivia	March 10	March 22	354	28	7.90%	2.185	187
Brasil	February 26	March 19 closed borders	24.232	1.378	5.68%	62.985	296
Chile	March 3	March 18 state of emergency	7.917	92	1.16%	87.794	4.593
Colombia	March 6	March 24	2.852	112	3.92%	43.053	846
Ecuador	February 29	March 16 state of emergency	7.603	355	4.66%	25.347	1.437
Paraguay	March 7	March 10	159	7	4.40%	3.394	476
Perú	March 6	March 15	10.303	230	2.23%	102.216	3.100
Uruguay	March 13	No quarantine	483	8	1.65%	9.236	2.659
Venezuela	March 13	March 17	189	9	4.76%	203.108	7.143
Total			56.369	2.321	4.11%		

Source: Coronavirus Resource Center Johns Hopkins University y Worldometer coronavirus. (Revised: April 14, 2020)[6,7]

Likewise, the fatality rate reflects the level of development and health system quality in each country. Despite that the health expense according to the percentage of gross domestic product in Bolivia (6.3%) is not much different than Chile (7.7%)[8], Bolivia has a higher fatality rate of 7.9% due to coronavirus, the highest in South America. This value is influenced by the lower number of diagnostic tests performed, the onset time of infection, the adopted measures by each health system and the proper characteristics of each country.

With the current information. we can observe that the global figures in South American do not yet reach comparable levels to other regions such as Asia and Europe, it even seems that none have reached the level of inflection in its epidemiological curve. It is necessary to take into account that an underestimation exists regarding the reported data for each country, since this depends on the amount of screening tests that are applied in the population, furthermore, it is emphasized that the asymptomatic carriers may not be considered within the statistics, since the tests are generally conducted in symptomatic patients.

Another key for success in the control of disease spread is the responsibility and discipline of the population in following the security measures established by each government, as was demonstrated in South Korea[9].

The spread of COVID-19 puts the health systems to the test, setting a real challenge in establishing health politics and reinforcing these, which were already deficient before the pandemic.10 One of the greatest deficiencies that they present is the lack of personal protection equipment, availability of beds in the intensive care units and mechanical ventilators, a cornerstone in the treatment of patients with SARS-CoV2.3 infection.

It is difficult to compare numbers between nations including the adopted measures for each of them, since there exists demographic, economic and political variables that may intervene, as well as being influenced by the number of applied tests, the population density and the social context that each country experiences, factors that converts South America into a vulnerable target[11].

It is still necessary to perform more studies to increase the stock of current knowledge.

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