Epidemiological clinical profile of COVID-19 cases in a municipality of Northeast Brasil

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Dear Editor,

The first cases of COVID-19 were registered in Wuhan, a city of 11 million people in the People's Republic of China. Caused by the new coronavirus, SARS-CoV-2, the disease quickly spread across the world[1]. On March 11, 2020, the World Health Organization (WHO) declared a global pandemic[2].

As of April 20, 2020, there were more than 2.49 million confirmed cases and 171,652 deaths from the disease in the world[3]. The first confirmed case in Brasil occurred on February 26, 2020[4]. Since then, the disease has spread throughout the Brazilian territory, reaching cities in the interior. As of April 20, 40,581 cases and 2,575 deaths had already been registered in Brasil[4].

Considering the spread of the disease in Brasil, this study describes the clinical and epidemiological profile of the first confirmed cases of COVID-19 in the municipality of Juazeiro, Bahia.

A descriptive study was carried out, based on data provided by the Health Department of the city of Juazeiro. The municipality is located in the Northern region of the state of Bahia, and it borders the city of Petrolina, which is located in the state of Pernambuco. Juazeiro has an estimated population of 210,000 inhabitants, and it is one of the most important centers of irrigated fruit in Brasil[5]. Clinical and epidemiological variables have been described.

The first suspected case in the municipality was notified on March 17, 2020. Between that date and April 20, there were 9 confirmed cases of the disease in the municipality. The first two confirmed cases were notified on March 17 and 18, 2020. Both were elderly individuals, members of the same family, with history of international travel. Community transmission was confirmed on March 31, with the notification of a nurse who had no travel history. The age of confirmed cases ranged from 22 to 77 years; four health professionals (two with higher education and

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two technicians) were confirmed with COVID-19. Cardiovascular disease, diabetes, and chronic respiratory disease were the comorbidities observed in three individuals. A 63-year-old man required hospitalization and died from COVID-19 (Table 1).

The observed profile is in line with the world literature[6]. However, the following three reflections are necessary to understand the dynamics of the pandemic and its consequences: i. the importance of travelers in the chain of disease dissemination; ii. community transmission; and iii. the involvement of health professionals.

The importance of travelers in the chain of dissemination of the disease.

There is no doubt that national and international travel has contributed to the spread of SARS-CoV-2 around the world. To limit cross-border spread, both regionally and globally, many countries have swiftly adopted sweeping measures, including full lockdowns of shops and companies, shutting down airports, imposing travel restrictions, and completely sealing their borders in order to contain transmission[7].

Restrictions on people coming from risk areas can be important at the beginning of an epidemic, as they allow control measures to be implemented in advance; however, they have little effect once community transmission has been established. According to the WHO, banning incoming flights from areas with high numbers of cases of COVID-19 does not prevent infected individuals from arriving from areas with intermediate numbers where controls are less stringent[8]. Furthermore, the movement of people between cities by land can also favor the spread of the disease regardless of air traffic.

The WHO thus recommends that travelers returning from affected areas self-monitor for symptoms for

TABLE 1.CHARACTERIZATION OF THE FIRST CONFIRMED CASES OF COVID-19 IN JUAZEIRO, BAHIA, NORTHEAST, BRASIL, 2020.

Case	Notification Date	Sex	Age years	Occupation	Signs and symptoms	Comorbidities	Travel History	Suspicious case contact	Hospitalized / IMV	Outcome
1	03/17/2020	F	77	Retired	Cough, myalgia/ arthralgia	None	Yes (São Paulo, Africa, Dubai, Abu Dhabi)	No	No	Cure
2	03/18/2020	M	74	Retired	Fever, cough, runny nose, irritability, adynamia	Cardiovascular disease	Yes (São Paulo, Africa, Dubai, Abu Dhabi)	No	No	Cure
3	03/31/2020	F	59	Nurse	Fever, cough, myalgia	None	No	No	No	Symptomatic[1]
4	04/08/2020	M	63	Retired	Fever, cough, dyspnea, O2 saturation < 95%.	Cardiovascular disease and diabetes	No	No	Yes	Death
5	04/08/2020	F	32	Nurse	Cough, sore throat, runny nose, headache, nausea/vomiting, myalgia/arthralgia, adynamia/ weakness, enlarged lymph nodes	None	No	Yes	No	Symptomatic[1]
6	04/11/2020	F	33	Secretary	Cough, headache, diarrhea, myalgia/ arthralgia	None	No	Yes	No	Symptomatic[1]
7	04/13/2020	F	25	Nurse technician	Runny nose, chills, hoarseness	None	No	Yes	No	Symptomatic[1]
8	04/14/2020	M	22	Nurse technician	Cough, runny nose, sneezing	None	No	Yes	No	Symptomatic[1]
9	04/15/2020	M	69	Retired	Fever, cough, dyspnea	Chronic respiratory disease	No	No	No	Symptomatic[1]

Legend: F: female; IMV: invasive mechanical ventilation; M: male. [1]Individual still without a clinical cure

14 days. If symptoms, such as fever, cough, or difficulty of breath occur, travelers are advised to contact local healthcare providers, preferably by phone, and inform them of their symptoms and travel history[8].

Community transmission

The Brazilian Ministry of Health recognized that community transmission was occurring across the country on March 20 as a strategic measure to ensure collective efforts to reduce transmission on the part of all Brazilians[9]. Since then, social distancing, store closing, and suspension of academic activities have been implemented by state governments as preventive measures.

Social distancing is one of the main methods to interrupt the disease transmission cycle, mainly due to the presence of asymptomatic carriers who may be able to transmit the virus. Accordingly, a recent study revealed that the viral load detected in asymptomatic patients was similar to that in symptomatic patients, which suggests the transmission potential of asymptomatic or minimally symptomatic patients[10]. Therefore, surveillance actions and expansion of testing are important to avoid the emergence of new cases.

The involvement of health professionals

The outbreak of COVID-19 could be particularly risky for healthcare workers due to their ongoing professional exposure to the virus. The National Health Commission of the People's Republic of China has reported that, as of February 24, 2020, a total of 3,387 out of 77,262 patients with COVID-19 (4.4%) in China were healthcare workers or individuals who worked in medical facilities[11]. As of April 05, 2020, 12,252 health workers in Italy tested positive for COVID-19, accounting for 10% of Italy's COVID-19 cases; furthermore, 80 medical doctors and 25 nurses have died[12]. There are no official data from Brasil, but it is estimated that by the beginning of April, around 7,000 health professionals had been removed from work since the beginning of the pandemic due to suspicious symptoms.

Inadequate personal protection of healthcare workers at the beginning of the epidemic was a central issue since the form of contagion was not yet fully understood, and awareness of personal protection was not strong enough[13]. Today, with more information and protocols established to prevent COVID-19 infection, other issues contribute to the transmission of infection among health professionals, including the following: protective equipment (PPE) shortage, the intensity of work, and lack of rest[13]. Healthcare workers play a crucial role in combating COVID-19. Adequate provision of PPE, food, rest, and psychological support are essential measures to ensure the safety and quality of life of these professionals[14].

In the present study, we describe the first cases of COVID-19 in the municipality of Juazeiro, Bahia, located in an important fruit center in the São Francisco Valley region. The cases are mainly composed of individuals with a history of travel in risk areas, health professionals, and contact with infected individuals. Tackling the pandemic is a complex process, which requires a wide range of measures to be developed simultaneously and in an articulated manner. No measure carried out in isolation will be able to contain the expansion of the pandemic.

Authors' contribuitions

Adeilton Gonçalves da Silva Junior: Participated in the concept and planning of the study, data collection and analysis, discussion of the results, drafting of the manuscript, as well as the revision and approval of the final version of the work.

Klynger Farias da Costa: Participated in the concept and planning of the study, data collection and analysis, discussion of the results, drafting of the manuscript, as well as the revision and approval of the final version of the work.

Paula Teles Vasconcelos: Participated in the concept and planning of the study, data collection and analysis, discussion of the results, drafting of the manuscript, as well as the revision and approval of the final version of the work.

Tatiane Malta dos Santos: Participated in the concept and planning of the study, data collection and analysis, discussion of the results, drafting of the manuscript, as well as the revision and approval of the final version of the work.

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