






Epidemiological characterization of COVID-19 in a health area. Jiguaní. January-August, 2021

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RESUMEN

Introduction: COVID-19 has been considered the most complex health crisis in the last hundred years. It marked a different era due to its impact on human behavior and society in general. It evidenced the capacity for progress and resistance of human beings in the face of the great challenges that arose. **Objective:** to characterize clinically and epidemiologically the patients confirmed with COVID-19 belonging to the health area of the "Edor de los Reyes" polyclinic from January to August 2021. **Method:** an observational, descriptive, cross-sectional study was carried out, whose universe consisted of the 676 patients who were positive in the real-time polymerase chain reaction test for COVID-19, with or

without symptoms. Variables such as: incidence, age, sex and hospital stay were used. It used the descriptive statistic. **Results:** the Jiguaní Sur popular council classified 43.93% of the total confirmed cases as very high risk. The female sex predominated with 51.6% and the most representative age was between 50 and 59 years with 19.8%. 43.9% of the diagnosed patients became infected within the family environment. The most frequent symptom on admission was cough, for 57.4%. **Conclusions:** COVID-19 has a high potential for spread. It comprises a symptomatic courtship associated with a high number of sequelae that impair the biopsychosocial development of the individual. The systematic updating of the

epidemiological behavior and the analysis of its evolution serve as a guide for the development of health programs.

Keywords: COVID-19; Disease; Incidence; patients; Risk; Health services; Sex; Time; Cough

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INTRODUCTION

The pandemic produced by the new coronavirus, SARS-Cov-2, has been considered the most complex health crisis in the last hundred years. It marked a different era because of its impact on human behavior and society in general. It imposed challenges, evidenced the capacity for progress and resilience of human beings in the face of the great challenges that arose. ^(1, 2)

The spectrum of clinical manifestations is broad. Most people infected by the COVID-19 virus present with mild to moderate respiratory symptoms and recover without special treatment. Individuals with underlying medical conditions, such as cardiovascular disease, diabetes, chronic respiratory disease or cancer, are more likely to develop severe disease. ⁽³⁾

In the first four months after its identification, humanity recorded more than four million cases and almost three hundred thousand deaths. ⁽⁴⁾ Until August 31, 2021, the World Health Organization (WHO) reported 190 countries and 32 territories with cases of COVID-19, for a cumulative total of 218 511 670 confirmed cases and 4 532 508 deaths associated with the disease, with a case fatality rate of 2.07%. In the Americas, the Pan American Health Organization (PAHO) reported 85 038 849 confirmed cases and 2 125 437 deaths, with a case fatality rate of 2, 5 %. ⁽⁵⁾

In Cuba, from the detection of the first case on March 11, 2020 until August 31, 2021, 659,464 confirmed cases and 5,377 deaths associated with the disease were reported, with a lethality rate of 0.82%.⁽⁵⁾ The National Health System achieved control of the



pandemic from its first moments with the participation of the scientific community and the strategies developed by the government leadership, such as the correct use of nasobuco and frequent hand washing. ⁽⁶⁾

Prevention actions were strengthened through Primary Health Care (PHC), where active screening was carried out to classify people according to their health status, and constant epidemiological surveillance of the population was established. ⁽⁷⁾

Cuban scientists have excelled in the development of research, application of novel protocols and vaccines at a speed never seen before in the history of mankind; such as the design of the website "Covid19CubaData" with the intention of showing statistical data on the behavior of this disease (<https://covid19cubadata.github.io/#cuba>). ⁽⁸⁾

The first positive case of COVID-19 in Granma was detected on March 16, 2020 and confirmed on March 19. In the period from March to May 2020, the incidence rate in the province was 1.6 per 100,000 inhabitants. ⁽⁹⁾ The first case in Jiguaní was confirmed in March, a traveler patient from Panama.

COVID-19 is a research priority in health systems, due to its biopsychosocial repercussions for the individual, the family and the community, since family health has a determining influence on the lifestyle of each person, elements that are directly related to the health-disease process. Taking into account these affectations, together with the increase of cases in the health area and the theoretical-methodological value of the study, the present research was carried out with the objective of clinically and epidemiologically characterizing the patients confirmed with COVID-19 belonging to the health area of the polyclinic "Edor de los Reyes Martínez Áreas" of Jiguaní municipality, Granma province in the period from January to August 2021.

METHOD

An observational, descriptive, cross-sectional, descriptive study was carried out in patients diagnosed with COVID-19 in the health area of the "Edor de los Reyes Martínez Áreas" polyclinic of the Jiguaní municipality from January to August 2021.



The universe was constituted by the 676 patients who were positive to the virological study: Reverse Transcriptase-polymerase Chain Reaction (RT-PCR) for COVID 19, with or without symptomatology. All patients who tested positive for COVID-19 were included in the study. Patients whose PCR result was negative were excluded. The sampling technique was not performed, since we worked with all the patients.

The study took into account the following variables: confirmed cases (reports of new cases from January to August 2021); age (divided into 8 age groups: under 1 year; 1-9; 10-19; 20-29; 30-39; 40-49; 50-59 and 60 years and over); sex (male or female); source of infection (family; community; work; outside the area; associated with health institutions and unknown); time elapsed between onset of symptoms and admission (less than 3 days, 3-7 and more than 7 days); hospital stay (less than 7 days, 7 to 14 days and more than 14 days) and symptoms present on admission (cough; fever; headache; nasal congestion; decay; sore throat; rhinorrhea; loss of smell; expectoration; muscle pain and loss of taste). The information used in the study was obtained from epidemiological surveys of the patients.

Descriptive statistics were used, in which different measures were employed for data analysis: percentage, measures of central tendency and dispersion. The SPSS version 10.0 statistical package was used for all statistical analysis. Microsoft Office Excel, Power Point and Word programs were used for the description, analysis and calculations.

The confidentiality of the patients' personal data was maintained, the principles of autonomy, justice, respect for individuals and the principle of beneficence and non-maleficence were respected. The study was carried out in accordance with the ethical norms for the use of human material and data, established in the Declaration of Helsinki of the World Medical Assembly, where the ethical principles for medical research on human beings are analyzed. In addition, the Ethics Committee and Scientific Council of the institution approved the study.



RESULTS

In the period from January to August 2021, 676 cases of COVID-19 were confirmed in the health area belonging to the "Edor de los Reyes Martínez Áreas" polyclinic in Jiguaní municipality, which reported an incidence rate of the disease of 1749.5 confirmed cases per 100 000 inhabitants.

The Jiguaní Sur popular council classified high risk (297 cases), for 43.93% of the total number of confirmed cases, which was above the incidence rate of the area studied, with a value of 2876.5 per 100 000 inhabitants (see Figure 1).

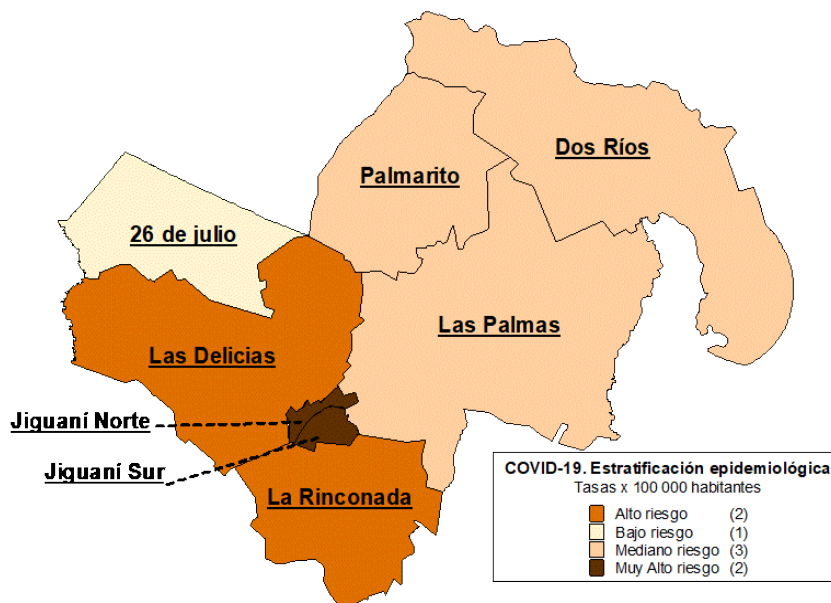


Figure1. COVID-19. Epidemiological stratification by people's councils. Healths are a "Edor de los Reyes Martínez Áreas". Jiguaní. January-August 2021. Source: Epidemiological surveys.

The female sex predominated (348 cases) for 51,6 % of the total number of confirmed cases in all age groups exceptin the 10-19 years age group, forarate of 5147.9 per 1000000 in habitants. The most representative age group was between 50-59 years, for 19,8 % of the total number of confirmed cases (seeTable1).

Table 1. Distribution of OVID-19 cases according to age and sex. Jiguaní. January-August 2021.

Source: Epidemiological surveys.

Age group	Sex		Total	
	Masculine	Female	No	%
Under 1 year old	9	10	19	2,8
From 1 to years old	21	22	43	6,3
From 10 to 19 years old	35	25	60	8,8
From 20 to 29 years old	41	55	96	14,3
From 30 to 39 years old	49	54	103	15,3
From 40 to 49 years old	42	50	92	13,7
From 50 to 59 years old	62	72	134	19,8
Over 60 years old	69	60	129	19,0
Total	328	348	676	100

Source: Epidemiological surveys

The source of infection of 43.9 % of the confirmed cases was within the family, 38.9% in the community and 9.6% in workplaces (see Table 2).

Table 2. Distribution of COVID-19 cases according to source of infection. Jiguaní. January/August. 2021.

Source of infection	Months								Total	
	January	February	March	April	May	June	July	August	No	%
	No	No	No	No	No	No	No	No		
Family	0	3	30	52	23	43	45	101	297	43,9
Community	0	2	13	23	7	38	42	138	263	38,9
Laboral	0	1	4	7	2	7	7	37	65	9,6
Outside the area	3	3	6	12	0	1	1	5	31	4,6
Unknown	0	0	2	4	1	5	0	0	12	1,8
Health institutions	0	0	2	1	0	4	1	0	8	1,2
Total	3	9	57	99	33	98	96	281	676	100

Source: Epidemiological surveys

Patients who attended health services early (before 72 hours) predominated (496) of the 607 with this condition, which represented 89.7 % of the total number of people

diagnosed. The most frequent symptom on admission was cough (349 patients) for 57.4 %. The 74.4 % of the patients had a hospital stay of 7 to 14 days (see Table 3).

Table 3. Distribution of COVID-19 cases according to symptoms present at admission. Jiguaní. January/August. 2021.

Symptoms present on admission	Months								Total	
	January	February	March	April	May	June	July	August	No	%
	No	No	No	No	No	No	No	No		
Cough	2	3	19	35	14	34	68	174	349	57,4
Headache	0	2	10	18	8	25	35	126	224	36,9
Fever	0	1	5	9	3	25	38	118	199	32,7
Nasal congestion	2	2	12	20	9	24	27	93	189	31,1
Decay	2	2	10	18	8	18	36	76	170	28,0
Sore throat	1	2	15	27	12	14	12	51	134	22,1
Rhinorrhea	0	0	1	4	0	17	21	81	124	20,0
Loss of samell	0	1	1	6	1	7	23	70	109	17,9
Expectoration	0	1	3	5	3	5	15	51	83	13,7
Muscle pain	0	0	1	3	1	4	4	67	80	13,2
Loss of taste	0	0	2	5	1	7	10	34	59	9,7

Source: Epidemiological surveys

DISCUSSION

A great difference was evidenced between the cases reported in the popular councils Jiguaní Sur and Jiguaní Norte with respect to the rest, this was due to the fact that the former constituted the urban area, where there was greater population density, which increased the risk of direct contact between people. ⁽¹⁰⁾

The disease was more representative in people over 50 years of age, where lethality and mortality increased. The same conclusions were reached by researchers in Argentina when evaluating patients with cardiovascular diseases during COVID-19, where the average age was 56 years. The identification of this behavior made it possible to detect



patients at risk of poor prognosis early and thus focus health promotion and prevention activities. (1, 2, 11, 12)

Children and adolescents had a lower risk of becoming ill and dying from COVID-19 than other age groups, establishing a parallelism with the article published in the journal *Infosalus*, which stated that SARS-COV-2 infection in the infant and adolescent population is less severe due to the low maturity of ACE2 in them. These data revealed that children were more protected from contact with sick people when they were cared for at home, especially during confinement. (1, 3, 14)

The representativeness of the female sex was in agreement with different citations consulted. According to the assessments, women presented an increase in the disease due to their high participation in tasks of social impact, which implied greater mobility and systemic contact, as stated in an announcement of the INFOPOB bulletin of the Center for Demographic Studies. (6, 15, 16)

Patients who attended health services early accounted for the largest percentage of all symptomatic patients. The authors associated early attendance to health services with a higher probability of a satisfactory outcome and considered that the time prior to admission depended on several factors such as difficult access to health services and the natural evolution of the disease in the first instance. (7, 13, 15, 17)

The high rates of infection in the family and community settings coincided with a clinical trial carried out in Argentina, which showed that prophylactic activities should have been directed mainly to these settings. (7, 18) In homes, there was direct and prolonged contact between cohabitants, which increased the risk of direct and indirect respiratory transmission.

Different authors stated that the etiology of the high number of asymptomatic cases was the timeliness in isolating contacts of suspected and confirmed cases and the early initiation of treatment, which was in agreement with the analysis presented. (5, 6, 13, 15, 19, 20)



The prevalence of asymptomatic cases responded to the preventive measures applied by the health personnel, such as the supply to the population of the homeopathic medicine "PrevengHo@-Vir", which was low cost and easily accessible, and the application of the Abdala vaccine candidate. (21, 22, 23)

The most characteristic symptom at admission coincided with other studies during the first five months of the study in 2020 and early 2021. (6, 13, 19, 20) It was considered that frail elderly people or those with underlying diseases, often presented atypical signs that were evident in the clinical picture of the disease, such as: agitation, disorientation and decay. (2)

The literature review reported that marked symptoms of respiratory distress such as dyspnea presented high rates of late hospitalization, which was linked to the screening of this population. (6, 17, 24) The presence of dyspnea and fever lasting more than six days were associated with severity, elements that were related to several international scientific publications. (24, 25)

The scientific contribution of this original article was to clinically and epidemiologically characterize the patients confirmed with COVID-19 belonging to the health area of the "Edor de los Reyes" polyclinic from January to August 2021.

The little information obtained from epidemiological surveys, as well as the scarce existing research in the province to make comparisons, constituted the main limitations of the present study, for which reason it is recommended to carry out research whose field of study makes it possible to provide answers to the limitations stated in this study.

CONCLUSIONS

COVID-19 has a high potential for propagation. It comprises a symptomatic cortex that is associated with a high number of sequelae that impair the biopsychosocial development



of the individual. The systematic updating of epidemiological behavior and the analysis of its evolution serve as a guide for the development of health programs.

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Declaration of conflicts of interest:

The authors declare that there are no conflicts of interest.

Authors' contribution:

RRDR: selected the topic, participated in the methodological design of the study, data collection and processing, report preparation and approval.

ACMV, AGPD, YEG and JMPG: participated in the methodological design of the study, data collection and processing, in the elaboration of the report and its approval.

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