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# Relationship of Clinical Data and Confirmed Case of Disease by the New Coronavirus, in the Mexican State of Guanajuato

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***Authors' contributions***

*This work was carried out in collaboration among all authors. Author NPR designed the protocol, analyzed the data and wrote the final report. Author GFV reviewed and refined the database, participated in the analysis of the data and in the writing of the final report. Author ENO carried out the literature search and participated in the writing of the final report. Author ELL participated in the design of the protocol and in the writing of the final report. Author MJGL reviewed the integrity of the data and in the literature search and in the writing of the final report. Author FJMV participated in the analysis of the data and in the writing of the final report. Author DADM participated in the design of the protocol, data analysis and writing of the final report. All authors approved the final version of the manuscript.*

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## ABSTRACT

**Aims:** The objective was to analyze the clinical data in population from Mexican Guanajuato state as a suspected case of COVID-19 and with result positive of rRT-PCR, reported until October 2, 2020.

**Study Design:** It is a cross-sectional based in data from National Epidemiological Surveillance System from General Epidemiological Directorate, Secretary of Health in Mexico.

**Place and Duration of Study:** Sample: All registries from confirmed and discarded cases of COVID-19 in database until October 2, 2020.

**Methodology:** It was included 100,919 registries, and from them, 810 were excluded by missing the result of rRT-PCR test. A suspected case was one with a clinical finding considered greater (cough, fever, headache or dyspnea and accompanied by at least one of the following: myalgia, arthralgia, odynophagia, chills, chest pain, rhinorrhea, anosmia, dysgeusia or conjunctivitis); a confirmed case of COVID-19 is a person with a positive rRT-PCR test for SARS-CoV-2, regardless of the clinical data presented. We included age, sex, and clinical data registered and result of rRT-PCR for SARS-CoV-2. It was used logistic regression to analyze the effect of clinical data on positive rRT-PCR.

**Results:** It was analyzed 100,109 registries. From them, 41,734 were positive for SARS-CoV-2. Fever (OR 1.72, CI95% 1.68 to 1.77), cough (OR 1.70, CI95% 1.66 to 1.74), and odynophagia (OR 1.71, CI95% 1.66 to 1.75) shown a stronger effect on positive rRT-PCR test. Cyanosis did not have any effect on the result of the rRT-PCR test.

**Conclusion:** There are not pathognomonic clinical data for COVID-19. All clinical data in confirmed cases are similar to another respiratory viral infections.


*Keywords: SARS-CoV-2; COVID-19; clinical data; confirmed case.*

## 1. INTRODUCTION

Since the beginning of the new coronavirus pandemic in Wuhan, China, at the end of 2019 [1], one of the concerns has been to make a certain diagnosis. In Mexico, in April 2020, the definition of a suspected case was any person of any age who in the last 7 days has presented at least two of the following signs and symptoms: cough, fever or headache, accompanied by at least one of the following signs or symptoms: dyspnea (severity data), arthralgia, myalgia, odynophagia / pharyngeal burning, rhinorrhea, conjunctivitis, thoracic pain [2], and a confirmed case is any person who meets the operational definition of a suspected case and has with laboratory confirmed diagnosis of the National Network of Public Health Laboratories recognized by the Epidemiological Reference Institute [2].

Faced with the imminent arrival of the pandemic to the state of Guanajuato, the state civil authorities initiated preventive actions, such as social isolation, staying at home; closure of educational institutions of all levels as of March 20, 2020 and a week later the closure of restaurants, gyms, public parks and cancellation of massive events and cancellation of meetings with more than 10 people, and that contained, the spread of the infection in the state, although later the numbers of confirmed cases increased.

In Guanajuato state, the first confirmed case of disease by the new coronavirus (COVID-19) was confirmed on March 10, 2020 [3], and various publications demonstrate the evolution in the number of confirmed cases of COVID-19; as of March 23, only 12 cases had been confirmed [4], 37 confirmed cases were reported by March 28 [5], 96 by April 16 [6], 658 by May 15 [7] and 838 by May 20 [8], giving an increase from March 23 to May 20 of 698.33% of confirmed cases.

The state of Guanajuato is located in the center of the Mexican Republic, with location data: Longitude # 102°5'49.2 "W # 99°40'16.68" W, Latitude 19°54'46.08 "N 21°50'21.84 ”N [9]. The state had 5,486,372 inhabitants, which represented 4.88% of the Mexican population, according to the 2010 census [10].

The World Health Organization (WHO), in the document Diagnostic Tests for SARS-CoV-2: Interim Guidance, recommends real-time reverse transcription polymerase (rRT-PCR) for the diagnosis of SARS-CoV-2 infection and COVID-19 [11].

The database of Sistema Nacional de Vigilancia Epidemiológica (SINAVE) de la Dirección

General de Epidemiología (DGE), de la Secretaría de Salud of Mexican goverment is an official database from Secretary of Health from Government of Mexico, and include all cases, suspected, confirmed and discarded of COVID-19 [12].

The objective was to analyze the clinical data in population from Mexican Guanajuato state as a suspected case of COVID-19 and with result positive of rRT-PCR, reported until October 2, 2020.

## 2. MATERIALS AND METHODS

It is a cross-sectional analytical study of clinical data and the result of the rRT-PCR test, registered in the database of the SINAVE/DGE, of confirmed and discarded cases of COVID-19 [12].

The database was used until October 2, 2020, of the confirmed and discarded cases of COVID-19 in Mexico using the Sentinel model.

As a universe, all the records included in the database were up to October 2, 2020.

To select the records in the analysis were all the records that had the complete data. There were no exclusion criteria and the elimination criteria were incomplete records in their data.

For the SINAVE/DGE, a suspected case was one with a clinical finding considered greater (cough, fever, headache or dyspnea and accompanied by at least one of the following: myalgia, arthralgia, odynophagia, chills, chest pain, rhinorrhea, anosmia, dysgeusia or conjunctivitis) [13].

A confirmed case of COVID-19 is a person with a positive rRT-PCR test for SARS-CoV-2, regardless of the clinical data presented [14].

The sociodemographic variables age and sex were included. As independent variables, the date of onset of clinical data, fever, cough, headache, dyspnea, shore throat, irritability, diarrhea, thoracic pain, chills, myalgia, arthralgia, malaise, rhinorrhea, polypnea, vomit, abdominal pain, conjunctivitis, cyanosis, anosmia, dysgeusia were considered.

The dependent variable was the result of the rRT-PCR test, taken from the nasal and oropharyngeal mucosa. For the purposes of this analysis, the cases where they reported a positive rRT-PCR test for other respiratory viruses other than SARS-CoV-2 were considered negative.

### 2.1 Procedures

The Excell ® database was reviewed and it was transferred to the STATA 13.0 database (Stata Corp., College Station, TX, USA).

#### 2.2 Statistical analysis

Descriptive statistics were performed for all variables and an epidemiological curve was designed for confirmed cases according to the start date of the clinical data. Tabulation of each clinical data was performed for confirmed cases and discarded cases; To show association between the variables and to be a confirmed case, the Chi square test, degrees of freedom and P value were calculated; To show the effect of the clinical data on being a confirmed case, Odds Ratio (OR) and 95% confidence intervals (95% CI) were calculated.

A logistic regression model was generated and it was determined whether age group and sex acted as confounders, with the Likelihood Ratio Test (LRT) and P-value.

Logistic regression models were generated including all clinical data and the models were compared with the LRT and the value of P.

In all cases, to demonstrate statistical significance, the alpha value was set at .05.

Statistical analysis was performed in STATA 13.0 (Stata Corp., College Station, TX, USA).

## 3. RESULTS AND DISCUSSION

100,919 records were obtained from the SINAVE/DGE database [12] until October 2, 2020. 810 records were eliminated due to not having the result of the rRT-PCR test, leaving 100,109 records of suspected cases.

Of the 100,109 suspected cases as of October 2, 2020, 41.69% were positive for SARS-CoV-2 and much lower numbers for other respiratory viruses (Table 1).

By starting date of clinical data, the curve of confirmed data is obtained (Fig. 1), where it is verified that the largest number of cases were the day July 25, 2020 with 676 new confirmed cases and although they have decreased, there

have been between 300 and 400 new cases per day during the month August 2020. In September, we would have to wait for the results of the rRT-PCR test to corroborate if it is a real decrease or is it an artifact due to the lack of laboratory test results.

From the records, it was obtained that there were 53,396 (53.34%) women and 46,713 (46.66%) men, with an age range of 0 to 113 years, with a mean of 39.44 ± 17.58.

Among the records of people with positive rRT-PCR test, the age between 12 and 49 years (63.77%) and women (51.38%) predominated. Among the registries with negative rRT-PCR, the same age range from 12 to 49 years (70.67%) and women (54.74%) prevailed (Table 2).

As expected, confirmed cases 15.44% were hospitalized, more than discarded cases (6.84%) (Table 3).

Of the records eliminated, only anosmia and dysgeusia, exceeded 4% of records that were excluded from the analysis; the rest did not reach 1% (Table 4).

All the clinical data reported between confirmed and discarded cases are shown in table 5. Headache 83.03%, cough 81.41%, myalgia 64.28%, fever 66.22%, dysgeusia 63.90%, arthralgia 57.42%, odynophagia 56.80%, predominated.

To identify the effect of clinical data on having a positive rRT-PCR test, logistic regression models were designed, assessing each of the signs and symptoms reported by confirmed cases (Table 6). The final model included all clinical data, except cyanosis, as the model did not improve (*P*> .05).

The final model shows that fever, cough, dyspnea, chest pain, chills, myalgia, arthralgia, malaise had an effect on having a positive rRT-PCR test for SARS-CoV-2, while odynophagia, irritability, headache, rhinorrhea, abdominal pain, conjunctivitis, anosmia and dysgeusia, had a preventive effect to have a positive rRT-PCR test for SARS-CoV-2. Diarrhea and vomiting did not show any effect on having positive rRT-PCR, after adjusting for the rest of the clinical data (Table 7).

## 3.1 Discussion

The sample consisted of 100,919 records obtained from the SINAVE/DGE database dated October 2, 2020. 810 records were eliminated due to not having the result of the rRT-PCR test, leaving 100,109 records of suspected cases. Of the 100,109 suspected cases as of October 2, 2020, 41.69% were positive for SARS-CoV-2 and much lower numbers for other respiratory viruses (Table 1).

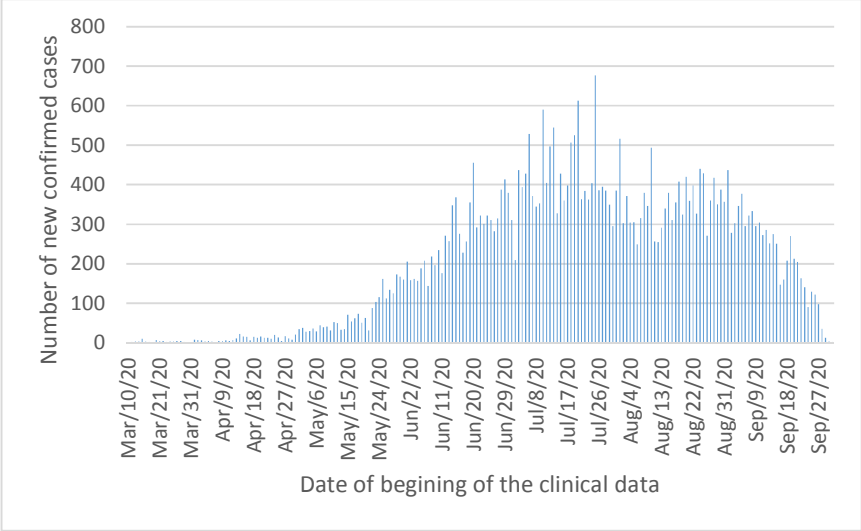


**Fig. 1. Epidemiological curve of confirmed cases until October 2, 2020 (n=41,734)**
*Source: SINAVE/DGE [12]*

**Table 1. Distribution of results of rRT-PCR test in suspected cases of COVID-19 (n=100,109)**

| Results of RT-PCR test | N | % |
|---|---|---|
| Negative | 58,086 | 58.02 |
| SARS-CoV-2 | 41,734 | 41.69 |
| Influenza A H1N1 | 147 | 0.15 |
| Influenza B | 110 | 0.11 |
| Influenza A H3 | 12 | 0.01 |
| Respiratory Syncytial Virus | 10 | 0.01 |
| Rhinovirus | 3 | 0.00 |
| Influenza A | 3 | 0.00 |
| Metapneumovirus | 3 | 0.00 |
| Parainfluenza 2 | 1 | 0.00 |

*Source: SINAVE/DGE [12]*

**Table 2. Distribution of results of rRT-PCR positive to SARS-CoV-2 by age group and sex (n=100,109)**

| Age group (years) | rRT-PCR test positive | | rRT-PCR test negative | | $X^2$-test (df) *P* -value |
|---|---|---|---|---|---|
| | n | % | N | % | |
| 0 – 2 | 273 | 0.65 | 1,121 | 1.92 | 2,100 (6) .0001 |
| 3 – 5 | 262 | 0.63 | 913 | 1.56 | |
| 6 – 11 | 553 | 1.33 | 1,827 | 3.13 | |
| 12 – 49 | 26,614 | 63.77 | 41,251 | 70.67 | |
| 50 – 59 | 6,715 | 16.09 | 6,901 | 11.82 | |
| 60 -74 | 5,504 | 13.19 | 4,772 | 8.17 | |
| 75 -115 | 1,813 | 4.34 | 1,590 | 2.72 | |
| Sex | | | | | 109.94 (1) .0001 |
| Female | 21,444 | 51.38 | 31,952 | 54.74 | |
| Male | 20,290 | 48.62 | 26,423 | 45.26 | |

*Source: SINAVE/DGE [12]*

Among the confirmed cases, women predominated 51.38% and the age group from 12 to 49 with 63.77% (Table 2). In a series of 99 patients in Wuhan, China, males predominated (68%) with a mean age of 55.5 ± 13.1 years [15].

Liu et al. [16], reported in hospitalized patients, a slight increase in affected women (52.3%) with 39.8 ± 17.1 years, 97.7% had fever, 56.8% cough, 52.3% myalgia, 40.9% headache. The frequencies of the clinical data are different from those reported by the Guanajuato population where headache and cough prevailed, although women also predominated, and they were ambulatory or hospitalized patients (Table 4).

In a series of 1,099 infected with SARS-CoV-2, reported by Guan et al. [17], 55.1% were between 15 and 49 years of age, with 58.1% predominating males and had fever 21.7%, cough 67.8%, myalgia 14.9% and chills 11.5%. These figures are different from those reported among patients with COVID-19 residing in the state of Guanajuato, since headache, cough and fever predominated in them (Table 4).

The clinical data reported in Chinese and Mexican populations among those with COVID-19 is similar to many other viral respiratory tract infections, so we should not rely on clinical data for the diagnosis of COVID-19. The diagnostic method is rRT-PCR [11].

From the operational definition of suspected cases in March 2020, which was to have two of the data: cough, fever or headache, accompanied by at least one of the following signs or symptoms: dyspnea (severity data), arthralgia, myalgia, odynophagia / pharyngeal

burning, rhinorrhea, conjunctivitis, chest pain [2], change on August 24, 2020, in Mexico to: anyone with one of the following: cough, fever, dyspnea (seriousness) or headache, accompanied by one of the following: myalgia, arthralgia, odynophagia, chills, chest pain [13]. This resulted in more people being tested by rRT-PCR.

Of the group of signs and symptoms that occur with the new coronavirus disease, none is pathognomonic for SARS-CoV-2, which is shown in Table 4, since 83.06% of the discarded cases had headache, 75.75% cough, 56.19% odynophagia, 55.89% myalgia, 52.59% fever and 41.76% dysgeusia.

With the logistic regression models, fever showed the strongest effect on being a confirmed case of COVID-19 (OR 1.72), followed by fever, cough and odynophagia (OR 1.71). Practically all the signs and symptoms improved the model, except cyanosis. In the final model, fever, cough, dyspnea, chills, myalgia, arthralgia, general condition attack continued to have a significant effect on being a confirmed case of COVID-19, while odynophagia, irritability, headache, rhinorrhea, abdominal pain, conjunctivitis, anosmia and dysgeusia, had a preventive effect to have a positive rRT-PCR test for SARS-CoV-2 and diarrhea and vomiting did not show any effect on having positive rRT-PCR, after adjusting for the rest of the clinical data.

**Table 3. Distribution of type of patient by result for SARS-CoV-2 of rRT-PCR test**

| | rRT-PCR test positive (n=41,734) | | rRT-PCR test negative (n=58,375) | | Z-test for two proportions and *P*-value |
|---|---|---|---|---|---|
| | n | % | n | % | |
| Hospitalized | 6,445 | 15.44 | 3,990 | 6.84 | 165.68 .00001 |
| Ambulatory | 35,289 | 84.56 | 54,385 | 93.16 | |

*Source: SINAVE/DGE [12]*

**Table 4. Registries eliminated by not full information**

| Clinical data | rRT-PCR positive | | rRT-PCR negative | |
|---|---|---|---|---|
| | n | % | n | % |
| Fever | 16 | 0.04 | 17 | 0.03 |
| Cough | 7 | 0.02 | 13 | 0.02 |
| Headache | 11 | 0.03 | 28 | 0.04 |
| Dyspnea | 5 | 0.01 | 11 | 0.02 |
| Shore throat | 11 | 0.03 | 38 | 0.07 |
| Irritability | 4 | 0.01 | 11 | 0.02 |
| Diarrhea | 2 | 0.00 | 8 | 0.01 |
| Thoracic pain | 7 | 0.02 | 35 | 0.06 |
| Chills | 9 | 0.02 | 35 | 0.06 |
| Myalgia | 14 | 0.03 | 36 | 0.06 |
| Arthralgia | 13 | 0.03 | 31 | 0.05 |
| Malaise | 3 | 0.01 | 13 | 0.02 |
| Rhinorrhea | 7 | 0.02 | 26 | 0.04 |
| Polypnea | 0 | 0.00 | 29 | 0.05 |
| Vomit | 3 | 0.01 | 26 | 0.04 |
| Abdominal pain | 7 | 0.02 | 32 | 0.05 |
| Conjunctivitis | 7 | 0.02 | 23 | 0.04 |
| Cyanosis | 5 | 0.01 | 27 | 0.05 |
| Anosmia | 1,951 | 4.67 | 9,743 | 16.69 |
| Dysgeusia | 1,970 | 4.72 | 9,768 | 16.73 |

*Source: SINAVE/DGE [12]*

**Table 5. Distribution of clinical data by results of rRT-PCR test (n=100,109)**

| Clinical data | rRT-PCR test positive | | rRT-PCR test negative | | $X^2$-test (degree of freedom) *P*-value |
|---|---|---|---|---|---|
| | n | % | n | % | |
| Fever | | | | | 1,900 (1) .0001 |
| Yes | 27,624 | 66.22 | 30,688 | 52.59 | |
| No | 14,094 | 33.78 | 27,670 | 47.41 | |
| Cough | | | | | 455.28 (1) .0001 |
| Yes | 33,969 | 81.41 | 44,210 | 75.75 | |
| No | 7,758 | 18.59 | 14,152 | 24.25 | |
| Headache | | | | | 0.0002 (1) .99 |
| Yes | 34,656 | 83.06 | 48,465 | 83.06 | |
| No | 7,067 | 16.94 | 9,885 | 16.94 | |
| Dyspnea | | | | | 1,900 (1) .0001 |
| Yes | 9,250 | 22.17 | 6,880 | 11.79 | |
| No | 32,479 | 77.83 | 51,484 | 88.21 | |
| Odynophagia | | | | | 18.08 (1) .0001 |
| Yes | 22,866 | 54.80 | 32,777 | 56.19 | |
| No | 18,857 | 45.20 | 25,560 | 43.81 | |
| Irritability | | | | | 47.36 (1) .0001 |
| Yes | 4,566 | 10.94 | 5,608 | 9.61 | |
| No | 37,164 | 89.06 | 52,756 | 90.39 | |
| Diarrhea | | | | | 139.92 (1) .0001 |
| Yes | 7,795 | 18.68 | 9,239 | 15.83 | |
| No | 33,937 | 81.32 | 49,128 | 84.17 | |
| Thoracic pain | | | | | 1,300 (1) .0001 |
| Yes | 9,521 | 22.82 | 8,091 | 13.87 | |
| No | 32,206 | 77.18 | 50,249 | 86.13 | |
| Chills | | | | | 1,000 (1) .0001 |
| Yes | 16,890 | 40.48 | 17,926 | 30.73 | |
| No | 24,835 | 59.52 | 40,414 | 69.27 | |
| Myalgia | | | | | 709.30 (1) .0001 |
| Yes | 26,817 | 64.28 | 32,607 | 55.89 | |
| No | 14,903 | 35.72 | 25,732 | 44.11 | |

| Clinical data | rRT-PCR test positive | | rRT-PCR test negative | | $X^2$-test (degree of freedom) *P*-value |
|---|---|---|---|---|---|
| | n | % | n | % | |
| Arthralgia | | | | | 1,000 (1) .0001 |
| Yes | 23,956 | 57.42 | 27,576 | 47.26 | |
| No | 17,767 | 42.58 | 30,768 | 52.74 | |
| Malaise | | | | | 1,400 (1) .0001 |
| Yes | 18,545 | 44.44 | 19,075 | 32.68 | |
| No | 23,186 | 55.56 | 39,287 | 67.32 | |
| Rhinorrhea | | | | | 45.99 (1) .0001 |
| Yes | 13,988 | 33.52 | 20,768 | 35.59 | |
| No | 27,739 | 66.48 | 37,581 | 64.41 | |
| Polypnea | | | | | 1,200 (1) .0001 |
| Yes | 4,857 | 11.61 | 3.287 | 5.63 | |
| No | 36,897 | 88.39 | 55,059 | 94.37 | |
| Vomit | | | | | 110.28 (1) .0001 |
| Yes | 3,265 | 7.82 | 3,574 | 6.13 | |
| No | 38,466 | 92.18 | 54,775 | 93.87 | |
| Abdominal pain | | | | | 42.39 (1) .0001 |
| Yes | 4,631 | 11.10 | 5,733 | 9.83 | |
| No | 37,096 | 88.90 | 52,610 | 90.17 | |
| Conjunctivitis | | | | | 13.71 (1) .0001 |
| Yes | 4,287 | 10.27 | 5,582 | 9.57 | |
| No | 37,440 | 89.73 | 52,770 | 90.43 | |
| Cyanosis | | | | | 311.04 (1) .0001 |
| Yes | 1,406 | 3.37 | 963 | 1.65 | |
| No | 40,323 | 96.63 | 57,385 | 98.35 | |
| Anosmia | | | | | 2,300 (1) .0001 |
| Yes | 8,756 | 22.01 | 4,971 | 10.22 | |
| No | 31,027 | 77.99 | 43,661 | 89.78 | |
| Dysgeusia | | | | | 2,200 (1) .0001 |
| Yes | 8,260 | 63.90 | 31,504 | 41.76 | |
| No | 4,666 | 36.10 | 43,941 | 58.24 | |

*Source: SINAVE/DGE [12]*

**Table 6. Models of logistic regression of clinical data and rRT-PCR test positive**

| Models | OR | CI95% | Likelihood Ratio Test | *P*-Value |
|---|---|---|---|---|
| rRT-PCR+ and fever | 1.72 | 1.68 to 1.77 | 1,773.35 | .00001 |
| rRT-PCR +, fever and cough | 1.70 | 1.66 to 1.74 | 309.20 | .00001 |
| rRT-PCR+, fever, cough and odynophagia | 1.71 | 1.66 to 1.75 | 101.85 | .00001 |
| rRT-PCR +, fever, cough, odynophagia and dyspnea | 1.61 | 1.57 to 1.65 | 1,264.19 | .00001 |
| rRT-PCR +, fever, cough, odynophagia, dyspnea and irritability | 1.61 | 1.57 to 1.65 | 5.89 | .02 |
| rRT-PCR +, fever, cough, odynophagia, dyspnea, irritability and diarrhea | 1.60 | 1.56 to 1.64 | 33.70 | .00001 |
| rRT-PCR +, fever, cough, odynophagia, dyspnea, irritability, diarrhea and thoracic pain | 1.58 | 1.54 to 1.62 | 290.75 | .00001 |
| rRT-PCR +, fever, cough, odynophagia, dyspnea, irritability, diarrhea, thoracic pain and chills | 1.52 | 1.48 to 1.57 | 231.79 | .00001 |
| rRT-PCR +, fever, cough, odynophagia, dyspnea, irritability, diarrhea, thoracic pain, chills and headache | 1.52 | 1.48 to 1.56 | 8.63 | .003 |
| rRT-PCR +, fever, cough, odynophagia, dyspnea, irritability, diarrhea, thoracic pain, chills, headache and myalgia | 1.48 | 1.44 to 1.52 | 144.12 | .00001 |
| rRT-PCR +, fever, cough, odynophagia, dyspnea, irritability, diarrhea, thoracic pain, chills, headache, mialgia and arthralgia | 1.46 | 1.42 to 1.50 | 83.18 | .0000 |
| rRT-PCR +, fever, cough, odynophagia, dyspnea, irritability, diarrhea, thoracic pain, chills, headache, myalgia, arthralgia and malaise | 1.43 | 1.39 to 1.47 | 233.17 | .00001 |
| rRT-PCR +, fever, cough, odynophagia, dyspnea, irritability, diarrhea, thoracic pain, chills, headache, myalgia, arthralgia, malaise and rhinorrhea | 1.43 | 1.39 to 1.47 | 94.61 | .00001 |

| Models | OR | CI95% | Likelihood Ratio Test | *P*-Value |
|---|---|---|---|---|
| rRT-PCR +, fever, cough, odynophagia, dyspnea, irritability, diarrhea, thoracic pain, chills, headache, myalgia, arthralgia, malaise, rhinorrhea and polypnea | 1.43 | 1.39 to 1.47 | 29.87 | .00001 |
| rRT-PCR +, fever, cough, odynophagia, dyspnea, irritability, diarrhea, thoracic pain, chills, headache, myalgia, arthralgia, malaise, rhinorrhea, polypnea and vomit | 1.43 | 1.39 to 1.47 | 8.87 | .003 |
| rRT-PCR +, fever, cough, odynophagia, dyspnea, irritability, diarrhea, thoracic pain, chills, headache, myalgia, arthralgia, malaise, rhinorrhea, polypnea, vomit and abdominal pain | 1.43 | 1.39 to 1.47 | 51.77 | .00001 |
| rRT-PCR +, fever, cough, odynophagia, dyspnea, irritability, diarrhea, thoracic pain, chills, headache, myalgia, arthralgia, malaise, rhinorrhea, polypnea, vomit, abdominal pain and conjunctivitis | 1.43 | 1.40 to 1.47 | 11.55 | .0007 |
| rRT-PCR +, fever, cough, odynophagia, dyspnea, irritability, diarrhea, thoracic pain, chills, headache, myalgia, arthralgia, malaise, rhinorrhea, polypnea, vomit, abdominal pain, conjunctivitis and cyanosis | 1.43 | 1.40 to 1.47 | 1.8 | .18 |
| rRT-PCR +, fever, cough, odynophagia, dyspnea, irritability, diarrhea, thoracic pain, chills, headache, myalgia, arthralgia, malaise, rhinorrhea, polypnea, vomit, abdominal pain, conjunctivitis and anosmia | 1.53 | 1.49 to 1.57 | 3,498.20 | .00001 |
| rRT-PCR +, fever, cough, odynophagia, dyspnea, irritability, diarrhea, thoracic pain, chills, headache, myalgia, arthralgia, malaise, rhinorrhea, polypnea, vomit, abdominal pain, conjunctivitis, anosmia and dysgeusia | 1.53 | 1.49 to 1.57 | 40.02 | .00001 |

*Source: SINAVE/DGE [12]*

**Table 7. Final model of logistic regression for all clinical data**

| Clinical data | OR (CI95%) | Z | *P*-value |
|---|---|---|---|
| Fever | 1.52 (1.48 – 1.57) | 29.39 | .0001 |
| Cough | 1.34 (1.30 – 1.39) | 17.85 | .0001 |
| Odynophagia | 0.87 (0.85 – 0.89) | -10.27 | .0001 |
| Dyspnea | 1.55 (1.49 – 1.61) | 21.42 | .0001 |
| Irritability | 0.91 (0.87-0.95) | -4.35 | .0001 |
| Diarrhea | 1.01 (0.98 – 1-05) | 0.80 | .43 |
| Thoracic pain | 1.25 (1.21 – 1.30) | 12.63 | .0001 |
| Chills | 1.20 (1.17 – 1.24) | 12.52 | .0001 |
| Headache | 0.91 (0.88 – 0.94) | -5.30 | .0001 |
| Myalgia | 1.08 (1.04 – 1.12) | 4.52 | .0001 |
| Arthralgia | 1.08 (1.05 – 1.12) | 4.71 | .0001 |
| Malaise | 1.29 (1.26 – 1.33) | 17.30 | .0001 |
| Rhinorrhea | 0.90 (0.88 – 0.93) | -7.26 | .0001 |
| Polypnea | 1.22 (1.16 – 1.28) | 7.89 | .0001 |
| Vomit | 0.98 0.93 – 1.03) | -0.84 | .40 |
| Abdominal pain | 0.85 (0.82 – 0.89) | -7.22 | .0001 |
| Conjunctivitis | 0.94 (0.90 – 0.98) | -3.05 | .002 |
| Anosmia | 0.95 (0.92 – 0.98) | -3.28 | .001 |
| Dysgeusia | 0.90 (0.88 – 0.93) | -6.26 | .0001 |

*Source: SINAVE/DGE [12]*

## 4. CONCLUSION

Fever, cough and odynophagia show stronger effect on positive rRT-PCR test.

There are not pathognomonic clinical data of COVID-19. They are similar to another respiratory infection.

Some clinical data that shown relationship with positive rRT-PCR test, lost this relationship at adjust for another clinical data.

## CONSENT

It is not applicable.

## ETHICAL APPROVAL

The protocol was approved by Bioethics Committee of Campus Celaya-Salvatierra of the University of Guanajuato in México with registry CBCCS-05230042020.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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