DOI: 10.1002/jmv.26196

LETTER TO THE EDITOR

JOURNAL OF MEDICAL VIROLOGY WILEY

Characteristics and clinical outcomes of COVID-19 in Hispanic/Latino patients in a community setting: A retrospective cohort study

To the Editor,

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus which causes coronavirus disease 2019 (COVID-19), has caused significant morbidity and mortality worldwide. The Centers for Disease Control and Prevention suggest several possible symptoms associated with COVID-19, including cough, shortness of breath or difficulty breathing, fever, chills, muscle pain, sore throat, new loss of taste or smell, and less commonly nausea/vomiting/diarrhea.[1] Symptom screening and especially temperature measurements are commonly used to identify individuals with potential COVID-19 and is a key approach to mitigate community spread. Data regarding clinical presentations of COVID-19 in the Hispanic/Latino population are limited and may differ from other groups.

In this retrospective cohort study, we reviewed a Hispanic/Latino population receiving care at the major federally qualified health center in Providence, RI to investigate whether there were differences between the clinical characteristics of COVID-19 and age groups. Only symptomatic patients with risk factors or exposure histories were tested for SARS-CoV-2. Race/ethnicity was self-reported at patient encounters. Data on 105 consecutive Hispanic/Latino adult patients (≥18 years old) who were SARS-CoV-2 positive was available between 19 March 2020 and 29 April 2020. We compared patients less than 50 years old (younger group) and age 50 years and older (older group), and reported frequencies for binary/categorical variables and medians (interquartile ranges, IQR) for continuous variables. χ^2 tests and Wilcoxon rank-sum tests were applied to compare the statistical significances. All analyses were run using STATA 13.1 (StataCorp, College Station, TX).

Among the 105 patients, 79 (75.2%) were younger than 50 years. Median ages for the younger group was 30.0 years (IQR, 25.0-41.0) and older group was 57.0 years (IQR, 53.0-67.0). 28 (26.7%) % were male (Table 1). Compared to the older group, patients younger than 50 years old were less likely to experience fever during the disease course (51.9% vs 80.8%; $P = .009$). No significant differences existed in experiencing cough (71.4%), shortness of breath (27.6%), nasal congestion/rhinorrhea (49.5%), myalgia (67.6%), headache (60.0%), sore throat (37.1%), vomiting/diarrhea (37.1%), or loss of smell/taste (62.9%).

Among the Hispanic/Latino population, disease presentation demonstrated much lower rates of fever and higher rates of nasal symptoms, myalgia, headache, sore throat and vomiting/diarrhea in our population compared to 43 studies reported in China[2] but at a percentage similar to a recent study from Europe.[3] Significantly higher rate of pneumonia, hospital admission, respiratory oxygen support were seen in the older group. The World Health Organization (WHO) defines suspected cases of COVID-19 as individuals presenting with fever and at least one respiratory symptom, including in returning travelers.[4] In our study, only 51.9% of Hispanic/Latino patients younger than 50 years old experienced fever, while 80.8% of those 50 years and older had fever. Temperature screening has widely been recommended as the screening tool of choice during the COVID-19 pandemic.[5] Our findings suggest that temperature may be more sensitive for screening in adults over 50 years old and potentially unreliable for younger people, especially in Hispanic/Latino population. We believe that clinicians, especially those working with

TABLE 1 Characteristics, clinical course, and outcomes of Hispanic/Latino patients with coronavirus disease 2019 at Providence Community Health Centers

	Total patients (N = 105)	18 ≤ Age < 50 y (n = 79)	Age ≥ 50 y (n = 26)	*P* value	Symptom prevalences from 43 Chinese studies[2] - total N (%)
Demographic					
Median age (IQR), y	38.0 (26.0-48.0)	30.0 (25.0-41.0)	57.0 (53.0-67.0)		
Sex - no. (%)					
Male	28 (26.7)	22 (27.85)	6 (23.1)	.633	
Female	77 (73.3)	57 (72.15)	20 (76.9)		
Cigarette smoking history - no. (%)	8 (7.6)	4 (5.1)	4 (15.4)	.085	
Symptoms during disease course					
Cough - no. (%)	75 (71.4)	53 (67.1)	22 (84.6)	.086	2792 (60.3)
Shortness of breath - no. (%)	29 (27.6)	22 (27.9)	7 (26.9)	.927	1981 (24.9)
Nasal congestion/rhinorrhea - no. (%)	52 (49.5)	39 (49.4)	13 (50.0)	.955	1248 (1.8)/290 (3.5)
Myalgia - no. (%)	71 (67.6)	52 (65.8)	19 (73.1)	.493	2094 (28.5)
Fever - no. (%)	62 (59.1)	41 (51.9)	21 (80.8)	.009	2817 (83.3)
Headache - no. (%)	63 (60.0)	50 (63.3)	13 (50.0)	.230	2312 (14.0)
Sore throat - no. (%)	39 (37.1)	32 (40.1)	7 (26.9)	.214	2086 (12.3)
Vomiting/diarrhea - no. (%)	39 (37.1)	30 (38.0)	9 (34.6)	.758	1452 (3.6)/2415 (8.4)
Loss of smell/taste - no. (%)	66 (62.9)	51 (64.6)	15 (57.7)	.530	…
Outcomes					
Radiological diagnosed pneumonia - no. (%)	7 (6.7)	3 (3.8)	4 (15.4)	.040	
Hospitalized - no. (%)	5 (4.8)	1 (1.3)	4 (15.4)	.003	
Respiratory oxygen support - no. (%)	5 (4.8)	1 (1.3)	4 (15.4)	.003	
Mortality - no. (%)	0	0	0		
Comorbidities					
Hypertension - no. (%)	21 (20.0)	8 (10.1)	13 (50.0)	<.001	
Diabetes - no. (%)	12 (11.4)	6 (7.6)	6 (23.1)	.031	
COPD or asthma - no. (%)	9 (8.6)	7 (8.7)	2 (7.7)	.854	
Morbid obesity - no. (%)[a]	18 (17.1)	13 (16.5)	5 (19.2)	.745	
Chronic kidney disease - no. (%)	2 (1.9)	1 (1.3)	1 (3.9)	.404	
Liver cirrhosis - no. (%)	0	0	0		
Immunocompromised - no. (%)	0	0	0		

Abbreviations: COPD, chronic obstructive pulmonary disease; IQR, interquartile range.
[a]Morbid obesity was as BMI of 40 or more, or 35 or more and experiencing obesity-related health conditions, such as hypertension or diabetes.

predominately Hispanic/Latino communities, should consider these potential differences to identify early COVID-19 infections in their respective communities.

CONFLICT OF INTERESTS

Chien-Hsiang Weng had full access to all the data in the study and had final responsibility for the decision to submit for publication.

AUTHOR CONTRIBUTIONS

Study design: C-HW and PAC; Literature search: all authors; Data collection: C-HW, AS, and WWWB; Data analysis: C-HW; Interpretation: all authors; Writing: C-HW, WWWB, and PAC.

ETHICS STATEMENT

The study was approved by the Providence Community Health Centers Review Committee.

Chien-Hsiang Weng[1,2]
Andrew Saal[2]
Wesley Wing Wah Butt[2]
Philip A. Chan[3]

[1]*Department of Family Medicine, Brown University Warren Alpert Medical School, Providence, Rhode Island*
[2]*Department of Family Medicine, Brown University Warren Alpert Medical School, Providence Community Health Centers, Providence, Rhode Island*
[3]*Department of Medicine, Brown University Warren Alpert Medical School, Providence, Rhode Island*

Correspondence
Chien-Hsiang Weng, MD, MPH, Bio Med Family Medicine, Box G-MHRI, Brown University, Providence, RI 02912.
Email: chien-hsiang_weng@brown.edu

ORCID

Chien-Hsiang Weng http://orcid.org/0000-0002-0794-1263

REFERENCES

1. Centers for Disease Control and Prevention. Symptoms of Coronavirus. https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html. Accessed on June 10, 2020.
2. Fu L, Wang B, Yuan T, et al. Clinical characteristics of coronavirus disease 2019 (COVID-19) in China: a systematic review and meta-analysis. *J Infect*. 2020;80(6):656-665.
3. Lechien JR, Chiesa-Estomba CM, Place S, et al. Clinical and epidemiological characteristics of 1,420 European patients with mild-to-moderate coronavirus disease 2019. *J Intern Med*. 2020. https://onlinelibrary.wiley.com/doi/10.1111/joim.13089.
4. World Health Organization. Global surveillance for human infection with coronavirus disease (COVID-19): interim guidance. https://www.who.int/publications-detail/global-surveillance-for-human-infection-with-novel-coronavirus-(2019-ncov). Accessed on May 15, 2020.
5. Screening Clients at Homeless Shelters (Centers for Disease Control and Prevention). https://www.cdc.gov/coronavirus/2019-ncov/community/homeless-shelters/screening-clients-respiratory-infection-symptoms.html. Accessed on June 10, 2020.