

Long COVID among Latino Patients of Two Federally Qualified Health Centers in Washington State



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INTRODUCTION

Over the course of the pandemic, Hispanics/Latinos in Washington have been disproportionately impacted by the COVID-19 pandemic as evidenced by disproportionately elevated rates of infection, hospitalizations, and mortality.¹ Reports of persistent symptoms affecting multiple organ systems following acute COVID-19 infection, termed post-acute sequelae of SARS-CoV-2 (PASC) and Long COVID, have been estimated to affect between 7% of US adults and 14% among those who've contracted COVID-19.² Unvaccinated individuals, middle-aged individuals, and those with more severe infections and comorbid conditions are at elevated risk for Long COVID.³ Due to elevated risks for Long COVID among Latinos, we set out to (1) estimate the proportion of Latino patients that developed Long COVID among patients in Washington with confirmed diagnosis of COVID-19; (2) identify patient subgroups at high risk of Long COVID; and (3) characterize symptoms among those with Long COVID.

METHODS

This cross-sectional survey was conducted at two large Federally Qualified Health Centers (FQHCs) in Washington State among Hispanic/Latino adults aged 18 and older with PCR-confirmed COVID-19 between 01/01/2020 and 12/31/2022. Eligible participants who preferred English or Spanish and had a clinic visit within six months before 12/31/2022 were mailed surveys in their preferred language between 05/01/2022 and 08/29/2023 and offered a \$20 gift card incentive. Measures included post-acute COVID symptom duration, sociodemographic variables, and pre-infection vaccination status. Of 16,000 eligible participants, 8000 were surveyed, yielding 1546 completed responses (RR = 19.3%); 46 surveys were excluded from analyses. Analyses examined symptom prevalence by demographics and were weighted for oversampling. The study was approved by the University of Washington IRB (STUDY00016577).

RESULTS

Overall, 43% of respondents reported one or more symptoms of three months' duration or longer meeting the WHO definition for Long COVID (Fig. 1).⁴ Among socioeconomic subgroups, we found significant differences ($p < 0.05$) in Long COVID rates by age, gender, insurance status, income insecurity, symptom severity, number of infections, COVID-19 variant, vaccination status, income level, and Mexican background. By gender, Long COVID rates were higher among women (50%) than men (36%) ($p < 0.01$) (Table 1). Women also reported higher rates of anxiety (38% vs 28%, $p < 0.01$) and sleep difficulty (37% vs 23%, $p < 0.01$) than men. By age, the highest Long COVID rates were among 40–64 year-olds (46%), followed by 18–39 year-olds (42%) and 65+ year-olds (35%) ($p = 0.06$). There were also significant differences by age (18–39 years, 40–64 years, 65+ years) in rates of fatigue (35%, 46%, 38%), muscle pain (28%, 41%, 42%), loss of taste or smell (39%, 23%, 24%), difficulty with exercise (18%, 29%, 24%), and vision (8%, 21%, 32%).

DISCUSSION

In our study, 43% of study participants reported symptoms consistent with Long COVID. This is consistent with other studies of Long COVID that include Latino communities such as the US Census Household Pulse Survey.⁵ A key finding in our study is higher rates of Long COVID in women compared with men and in middle-aged adults compared with younger and older adults. Because of the central roles of these demographic groups in contributing to the social and economic well-being of Latino families and communities, Long COVID likely has impacts well beyond the affected individuals.

The failure to control COVID-19 spread among Washington's Latino population early in the pandemic likely contributed to high Long COVID rates. Despite early statewide shelter-in-place measures, transmission within the Latino community remained high. Factors exacerbating Long COVID rates included slow vaccine uptake, limited access to antivirals, uninsurance, poor access to primary care and medical or research facilities, and language and cultural barriers.⁶ Additional contributors were employment in high-risk jobs, multigenerational households, crowded living conditions, high rates of comorbidities (obesity, diabetes, heart disease), distrust in public health systems, and misinformation within the community.⁶

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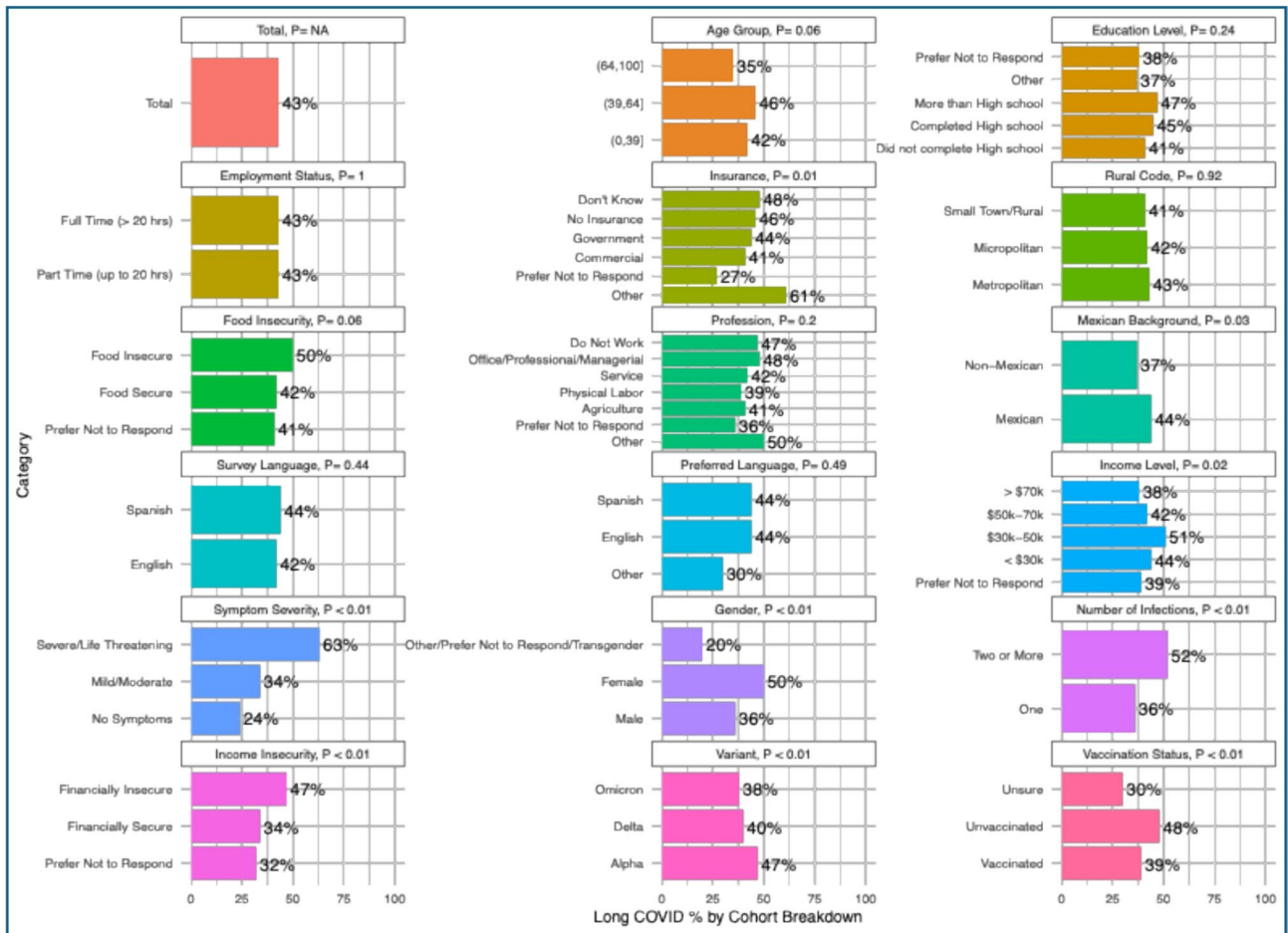


Figure 1 Estimated Long COVID rates by demographic and socioeconomic subgroup. Notes. The bar charts and percentages show the Long COVID rates color-coded for each subgroup of comparison. The *p*-values in the panel title correspond to the chi-square test assessing whether the Long COVID rates are associated with each covariate. Missing responses were excluded from the graphs and statistical tests.

Table 1 Symptom Profile Among Study Participants with Long COVID*

Long COVID symptom	All study participants with long COVID (N = 621)	Gender		Chi-squared <i>p</i> -value	Age			Chi-squared <i>p</i> -value
		Male (N = 261)	Female (N = 337)		18–39 (N = 212)	40–64 (N = 338)	65 + (N = 71)	
Any symptom	100%	36%	50%	<0.005	42%	46%	35%	0.06
Fatigue	40%	38%	42%	0.36	35%	46%	38%	0.02
Muscle pain	35%	35%	34%	0.73	28%	41%	42%	<0.005
Loss of taste or smell	31%	28%	31%	0.49	39%	23%	24%	<0.005
Cough	25%	24%	26%	0.58	24%	26%	31%	0.48
Shortness of breath	27%	29%	26%	0.54	30%	25%	22%	0.29
Dizziness	19%	16%	20%	0.32	20%	17%	28%	0.14
Brain fog	27%	24%	28%	0.3	26%	29%	20%	0.45
Sleep difficulty	33%	23%	37%	<0.005	28%	36%	41%	0.06
Chest pains	16%	16%	15%	0.78	15%	17%	21%	0.57
Heart palpitations	24%	21%	24%	0.54	24%	23%	26%	0.87
Difficulty with exercise	23%	23%	24%	0.85	18%	29%	24%	<0.005
Post-exertional malaise	24%	26%	23%	0.48	21%	28%	21%	0.08
Anxiety	35%	28%	38%	0.01	34%	35%	33%	0.93
Stomach issues	18%	15%	19%	0.32	21%	16%	20%	0.31
Trouble with vision	16%	13%	15%	0.66	8%	21%	32%	<0.005
Other symptoms	15%	14%	16%	0.47	14%	15%	9%	0.6
Menstrual changes	9%	2%	13%	<0.005	11%	8%	0%	0.05

*Weighted percentages based on respondents meeting long COVID criteria (N = 621)

Long COVID treatment remains largely inaccessible and inconsistent for Latino patients, varying by location and provider. While national efforts to standardize care are ongoing, diagnosis remains complex, requiring evaluation of organ systems and conditions with overlapping symptoms before starting symptom-based treatment. No definitive biomarker or single medication exists to confirm or treat Long COVID. Our findings highlight the need for further research, improved diagnosis and treatment, and expanded access to disability benefits for those most affected in Latino communities.⁷

This study was limited by a low survey response rate and exclusive inclusion of Latinos attending FQHCs.

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Author Contribution: LSM, AC, XJL, and SRZ conceptualized and designed the study. LSM and AC developed the survey questions, handled data transfers, and addressed study logistics. ML and GR provided access and oversight of data from their respective clinical sites, along with input and insights related to their respective practice environments. KS provided long COVID care expertise and insights into treatment. JC, AC, and SRZ analyzed the data, and all authors interpreted the findings. All authors reviewed the final manuscript.

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Declarations:

Conflict of Interest: The authors declare that they do not have a conflict of interest.

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