Research Letter

Prevalence and Severity of Coronavirus Disease 2019 (COVID-19) Illness in Symptomatic Pregnant and Postpartum Women Stratified by Hispanic Ethnicity

Ilona Telefus Goldfarb, MD, MPH, Mark A. Clapp, MD, MPH, Marti D. Soffer, MD, MPH, Lydia L. Shook, MD, Katherine Rushfirth, CNM, MSN, Andrea G. Edlow, MD, MSc, Adeline A. Boatin, MD, MPH, Anjali J. Kaimal, MD, MAS, William H. Barth Jr, MD, and Allison S. Bryant, MD, MPH

INTRODUCTION

The spread of the novel coronavirus has had a significant global effect. However, not all communities have been affected equally: U.S. reports have demonstrated racial and ethnic inequities in coronavirus disease 2019 (COVID-19)–related hospitalizations and deaths. Such inequities are commonplace in maternal mortality and severe maternal morbidity.[1–5] We sought to examine possible ethnic inequities of the COVID-19 pandemic among pregnant patients at our institution.

METHODS

This is a prospective cohort study of women at a single academic medical center who reported symptoms of COVID-19 infection while pregnant or within 2 weeks postpartum from March 6 to May 4, 2020, a timeframe that included the peak regional COVID-19 infection

Corresponding author: Ilona Telefus Goldfarb, MD, MPH, Department of Obstetrics and Gynecology, Massachusetts General Hospital, Boston, MA; email: igoldfarb@mgh.harvard.edu.
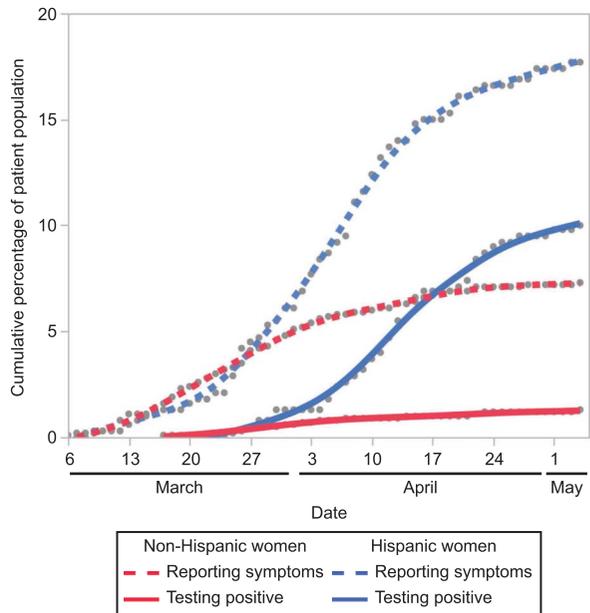
Fig. 1. Cumulative percentage of women reporting symptoms and testing positive for coronavirus disease 2019 (COVID-19) infection among the pregnant patient population. *Red and blue lines (solid and dashed) are smoothed lines to fit the points.*
Goldfarb. Ethnic Inequities in COVID-19 Prevalence and Severity. Obstet Gynecol 2020.

incidence.[6] Women were tested for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2, reverse transcriptase-polymerase chain reaction 53 nasopharyngeal swab) based on symptoms and, additionally, epidemiologic factors, because we had insufficient testing capacity to test all symptomatic women. This study was approved by the Partners Healthcare Human Research Committee. We compared characteristics among women with confirmed COVID-19 infection by self-reported ethnicity (Hispanic or non-Hispanic).[7] For women testing positive, we compared disease severity by ethnicity (without statistical testing owing to small sample sizes). We used χ^2 or Fisher exact test for categorical variables and Wilcoxon rank-sum test for continuous variables. $P<.05$ was considered significant.

RESULTS

During the study, 65 Hispanic and 127 non-Hispanic women presented with symptoms of COVID-19 infection. One hundred thirty-six (71%) were tested; 39 of 54 Hispanic women (72%) and 22 of 82 non-Hispanic women (27%) had positive test results ($P<.001$). There were differences in baseline characteristics by ethnicity for women who were symptomatic

and those with confirmed COVID-19 infection (Table 1). Of those testing positive, 13 of 39 Hispanic women were admitted to the hospital: five to the intensive care unit, of whom four were intubated. Eight of 22 non-Hispanic women were admitted: one to the intensive care unit but without undergoing intubation. There were no deaths.

DISCUSSION

Our initial experience with COVID-19 infection in pregnancy has identified inequities between Hispanic and non-Hispanic pregnant women in the catchment area of our obstetric service. Although Hispanic women represent just 18% of this population, they accounted for more than 60% of all pregnant women hospitalized for COVID-19 infection to date. Furthermore, after initiation of statewide distancing guidance, the rate of infections among non-Hispanic pregnant women at our institution plateaued whereas the incidence among Hispanic pregnant women continued to rise (Fig. 1).

Mitigation strategies for COVID-19 infection have relied heavily on individuals' adherence to physical distancing guidance; however, many families in diverse urban communities live in multigenerational or multifamily homes, with family members working in

Table 1. Comparison of Maternal Characteristics by Ethnicity Among Women Reporting Symptoms and Those With Confirmed Cases of Coronavirus Disease 2019 (COVID-19) Infection

| Characteristic | Symptomatic Women | | | Confirmed Cases | | |
	Hispanic (n=65)	Non-Hispanic* (n=127)	P	Hispanic (n=39)	Non-Hispanic* (n=22)	P
Age (y)	30 (26.0–34.7)	34 (30.6–36.9)	<.001	29 (25.2–35.3)	35 (30.1–38.9)	.02
Parity	1.0 (1.0–2.0)	1.0 (0.0–1.0)	.001	2.0 (1.0–2.0)	0.0 (0.0–1.0)	<.001
Onset of symptoms						
Gestational age (wk)	24 (14.6–28.4)	20 (12.1–28.3)	.15	24 (14.1–28.4)	24 (20.1–29.7)	.74
Postpartum	12 (19)	24 (19)	1.00	9 (23)	4 (18)	.54
Primary language						
English	26 (40)	121 (95)	<.001	10 (26)	20 (91)	<.001
Non-English	39 (60)	0 (0)		29 (74)	0 (0)	
Unknown	0 (0.0)	6 (5)		0 (0)	2 (9)	
Primary insurer						
Public	48 (74)	18 (14)	<.001	31 (79)	5 (23)	<.001
Private	15 (23)	105 (83)		6 (15)	16 (73)	
Uninsured	0 (0.0)	2 (2)		0 (0)	1 (5)	
Unknown	2 (3)	2 (2)		2 (5)	0 (0)	
Median income of ZIP code ($1,000)	52 (49.6–55.2)	80 (55.2–90.7)	<.001	51 (49.6–52.4)	64 (49.6–79.6)	.02
Comorbidities						
Obesity	25 (39)	32 (25)	.09	17 (44)	9 (41)	.79
Diabetes	7 (11)	7 (6)	.17	4 (10)	1 (5)	.65
Asthma	6 (9)	29 (23)	.03	2 (5)	4 (18)	.75
Tested	54 (83)	82 (65)	.008			

Data are median (interquartile range) or n (%) unless otherwise specified.
* The non-Hispanic group includes white, black, and Asian women and women of other races.

essential, low-wage jobs. Language barriers, jobs without sick pay or insurance, and fear of immigration officials may keep individuals from necessary screening and medical attention, which may allow further spread of disease within their homes and communities.

As a limitation of this analysis, we recognize the contribution of evolving access to COVID-19 testing over the study period in our institution. However, the incidence of Hispanic women reporting symptoms also rose during the study period, suggesting that access to testing is unlikely the sole explanation for the observed differences. Given small numbers, we were unable to control for multiple variables, including underlying comorbidities that have been reported to worsen outcomes.

Without detailed demographic information, aggregated data at institutional or regional levels may present an overly optimistic view that the COVID-19 infection curve has been flattened for all populations. This study suggests otherwise and demonstrates an urgent need for tailored approaches to slow the spread among vulnerable groups.

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PEER REVIEW HISTORY