



Evaluation of Health Disparities in Pregnant COVID-19 Patients: A Case Control Study

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PUBLISHED ABSTRACT

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ABSTRACT

Background: The COVID-19 pandemic disproportionately affects Latino and Black populations, highlighting the socio-economic factors that contribute to health disparity in these communities. Limited data in pregnant patients has shown a disproportionate number of Latino women infected with COVID-19. The objective of this study is to further evaluate positive pregnant COVID-19 patients in our population and assess for potential socio-economic risk factors that increases the risk of contracting the virus.

Methods: This was an IRB-exempt, case-controlled study. Retrospective and prospective chart review was conducted of all obstetrical patients admitted to our L&D from March 30th to April 30th – the peak of infection in New York. COVID positive patients were aged matched (+/- 3 years) to COVID negative patients and baseline demographics were compared amongst COVID positive and COVID negative patients. Univariate logistic regression was used to assess the association between each variable and COVID status. Results reported as odds ratios and corresponding 95% confidence intervals.

A result was considered statistically significant at the $p < 0.05$ level of significance. All analyses were performed using SAS version 9.3.

Results: Subjects who were born internationally were 15 times more likely to be COVID positive compared to those born in the US (OR = 15.00, 95% CI: 4.94, 45.51, $p < 0.0001$). Subjects who identified as Hispanic had over a 3 fold increased risk compared to their White counterparts (OR 3.37, 95% CI: 1.25, 9.05) Subjects who live in a household with more than 4 people were almost 4 times more likely to be COVID positive as compared to those with ≤ 4 people (OR = 3.75, 95% CI: 1.16, 12.12, $p < 0.0272$). Subjects who work from home were 4 times less likely to be COVID positive as compared to those who do not work from home (OR = 0.23, 95% CI: 0.08, 0.64, $p < 0.0049$) (**Tables 1** and **2**).

Conclusions: The most protective factor against COVID-19 infection is social distancing and quarantining. Dense living situations and lack of remote employment opportunities contribute to the impact of COVID-19 on people of color. Our study continues to support the growing body of data that racial and ethnic minorities are disproportionately affected by COVID-19.

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CHARACTERISTICS	COVID + N = 26	COVID NEGATIVE N = 104	P-VALUE
Age (years)	27.00 ± 5.63	28.57 ± 4.84	0.16
BMI > 30 (kg/m ²)	14 (53.9%)	53 (50.9%)	0.79
Multiparity	18 (69.2%)	50 (48.1%)	0.06
1> Medical Comorbidities	8 (30.8%)	38 (36.5%)	0.58
Employed	11 (42.3%)	38 (36.5%)	0.55
Access to PPE	23 (95.8%)	93 (89.4%)	0.35

ETHNICITY/RACE	COVID + N = 26	COVID NEGATIVE N = 104	OR CI	P-VALUE
White	8 (30.8%)	50 (48.1%)	reference	
Black	14 (53.9%)	26 (25.0%)	1.25 (0.23, 6.79)	
Latino	2 (7.7%)	10 (9.6%)	3.37 (1.25, 9.05)	
Other	2 (7.7%)	18 (17.3%)	0.69 (0.14, 3.58)	
Insurance Type				
Private	12 (46.2%)	54 (51.9%)	reference	
Place of Birth				
USA	6 (30.0%)	90 (86.5%)	reference	
International	14 (70.0%)	14 (13.5%)	15.00 (4.9, 45.5)	<0.001
Household				
>4	6 (25.0%)	8 (8.2%)	3.75 (1.2, 12.1)	0.0272
Work @ Home				
Yes	15 (62.5%)	87 (87.9%)	0.23 (0.08, 0.64)	0.0049

Table 1 Baseline demographics comparing the patients that tested negative to those that tested positive for SARS-CoV2.

Continuous variables are reflected as mean (SD). Categorical values are reflected as n (%).

Table 2 Comparison of outcomes between COVID negative and COVID positive patients.

Continuous variables are reflected as mean (SD). Categorical values are reflected as n (%).

COMPETING INTERESTS

The authors have no competing interests to declare.

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