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Singleton preterm birth rates for racial and ethnic groups during the coronavirus disease 2019 pandemic in California



OBJECTIVE: Reports from Denmark¹ and the Limerick region in Ireland² noted dramatic reductions in preterm births during the initial months of the coronavirus disease 2019 (COVID-19) pandemic. We sought to assess the impact of the COVID-19 pandemic on preterm birth rates in a large racially diverse population during the peak months of the pandemic. Approximately 1 in 8 births in the United States occurs to California residents, a population that is among the most diverse in the country.

STUDY DESIGN: The Hispanic or Latinx community accounts for 39% of California's population and 46% of births but has experienced 61% of the state's COVID-19 cases and 48% of COVID-19–related deaths; the black community, which constitutes 6% of the population, accounts for 4% of cases and 8% of deaths (<https://covid19.ca.gov/data-and-tools/>). Under the auspices of state and Stanford's Institutional Review Boards, the state of California Center for Health Statistics provides provisional monthly

TABLE
Preterm birth rates during the COVID-19 pandemic: population-wide and by race and ethnicity

Gestational age and race and ethnicity (wk + d)	Births in April–July (rates per thousand live births)		2020 vs 2016–2019, OR (95% CI)	P value
	2020	2016–2019		
Entire population	n=132,853	n=580,714		
<28+0	4.46	4.44	1.01 (0.92–1.10)	.911
28+0 to 31+6	11.22	6.08	1.11 (1.03–1.20)	.004
32+0 to 36+6	62.87	62.89	1.00 (0.98–1.02)	1.000
Combined <37+0	74.09	73.41	1.01 (0.99–1.03)	.388
Hispanic or Latinx	n=61,238	n=270,293		
<28+0	4.96	5.06	0.98 (0.87–1.11)	.770
28+0 to 31+6	7.64	6.68	1.15 (1.03–1.27)	.009
32+0 to 36+6	65.50	67.54	0.97 (0.93–1.00)	.071
Combined <37+0	78.11	79.27	0.98 (0.95–1.02)	.335
White, non-Hispanic	n=38,284	n=163,547		
<28+0	2.56	2.70	0.95 (0.76–1.18)	.641
28+0 to 31+6	4.39	4.41	0.99 (0.84–1.18)	.944
32+0 to 36+6	53.76	53.05	1.01 (0.97–1.07)	.577
Combined <37+0	60.70	60.16	1.01 (0.96–1.06)	.686
Black, non-Hispanic	n=7404	n=31,195		
<28+0	10.13	9.84	1.03 (0.80–1.33)	.820
28+0 to 31+6	12.29	10.90	1.13 (0.89–1.43)	.306
32+0 to 36+6	85.76	81.49	1.06 (0.97–1.16)	.229
Combined <37+0	108.18	102.23	1.07 (0.98–1.16)	.130
Asian, Pacific Islander	n=19,505	n=92,742		
<28+0	3.23	3.27	0.99 (0.75–1.30)	.934
28+0 to 31+6	5.64	5.22	1.08 (0.88–1.33)	.462
32+0 to 36+6	61.78	59.02	1.05 (0.98–1.12)	.139
Combined <37+0	70.65	67.51	1.05 (0.99–1.12)	.114

CI, confidence interval; COVID-19, coronavirus disease 2019; OR, odds ratio.

Main. Preterm birth rates for racial and ethnic groups during the COVID-19 pandemic. *Am J Obstet Gynecol* 2021.

data on all births in California to support state-wide quality improvement activities.³ Race and ethnicity are self-identified.

We examined birth outcomes for the months that corresponded with the peak effects of the pandemic: April 2020 to July 2020. A state-wide COVID-19 lockdown began in California on March 19, 2020, with caseloads peaking first mid-April 2020 and followed by a much higher peak in mid-July 2020 with more than 12,000 new cases per day (<https://covid19.ca.gov/data-and-tools/>). We compared these 4 months in 2020 to the same 4-month period aggregated over the previous 4 years (2016–2019) using logistic regression models to calculate the odds ratios (ORs) and 95% confidence intervals (CIs). Analyses were performed using

Statistical Analysis System (version 9.4: SAS Institute Inc, Cary, NC).

RESULTS: Our findings by race and ethnicity are shown in the [Table](#). Singleton preterm birth rates using standard categories were unchanged during the pandemic period except the 28+0 to 31+6 weeks subset, which showed a modest increase (OR, 1.11; 95% CI, 1.03–1.20). This was driven primarily by the Hispanic or Latinx population. The overall rate of preterm birth (<37 weeks' gestation) was unchanged for all race and ethnicity categories. No changes in preterm birth rates were noted when analyzed by payer, region, or a combination with race and ethnicity (data not shown).

CONCLUSION: Contrary to earlier reports, we found no evidence of a reduction in preterm birth rates for any racial and ethnic groups. This finding differs from reports from Ireland² and Denmark,¹ which may reflect their small samples and lower severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection rates as of August 1, 2020, compared with the reports from California (<https://coronavirus.jhu.edu/map.html>). The Centers for Disease Control and Prevention has recently reported higher rates of preterm births among mothers with second-trimester symptomatic SARS-CoV-2 infections but not in asymptomatic cases.⁴ The finding of an 11% increase in the 28–32 week preterm birth rate among the Hispanic or Latinx population is consistent with higher direct and indirect pandemic effects for that community. However, this finding should be approached with caution given that other subsets of preterm birth were not increased. The pandemic could affect pregnancy outcomes through indirect mechanisms by changes in daily activities, social and economic effects, and utilization of healthcare services.⁵ More broadly, our findings underscore the need for caution in assessing the impact of the pandemic in small populations and over short periods. ■

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