




Experiences of Quality Perinatal Care During the US COVID-19 Pandemic

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Introduction: Quality perinatal care is recognized as an important birth process and outcome. During the coronavirus disease 2019 (COVID-19) pandemic, quality of perinatal care was compromised as the health care system grappled with adapting to an ever-changing, uncertain, and unprecedented public health crisis.

Methods: The aim of this study was to explore the quality of perinatal care received during the COVID-19 pandemic in the United States. Data were collected via an online questionnaire completed by people who gave birth in the United States after March 15, 2020. The questionnaire included the Mothers on Respect Index and the Mothers Autonomy in Decision Making validated measures. Low-quality perinatal care was defined as decreased respect and/or autonomy in the perinatal care received. Responses were geocoded by zip code to determine COVID-19 case-load in the county on the date of birth. Multivariate regression analyses described associations between respect and autonomy in decision-making for perinatal care and levels of COVID-19 outbreak across the United States.

Results: Participants (N = 707) from 46 states and the District of Columbia completed the questionnaire. As COVID-19 cases increased, participants' experiences of autonomy in decision-making for perinatal care decreased significantly ($P = .04$). Participants who identified as Black, Indigenous, and people of color, those who had an obstetrician provider, and those who gave birth in a hospital were more likely to experience low-quality perinatal care. Those with a midwife provider or who had a home birth were more likely to experience high-quality perinatal care in adjusted models.

Discussion: Variability in experiences of high-quality perinatal care by sociodemographic characteristics, birth setting, and provider type may relate to implicit bias, structural racism, and inequities in maternal health and COVID-19 outcomes for birthing people from marginalized communities.

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INTRODUCTION

Respect and communication are integral values in quality maternal and newborn care¹ and respectful perinatal care^{2,3} is recognized as an important birth outcome. Yet, during the global coronavirus disease 2019 (COVID-19) pandemic, evidence has surfaced that human rights and respectful perinatal care have suffered^{4–7} as health systems grappled with adapting to an ever-changing, uncertain, and unprecedented public health crisis⁶ while providing essential care for families during birth.

The World Health Organization (WHO) and scholars have incorporated respectful maternity care as a central tenet to high-quality perinatal care across birth settings, levels of technology, and resources of the country.^{1,8–10} Quality mater-

nal and newborn care prioritizes the needs of birthing people and their infants.¹ The WHO defines respectful maternity care (hereafter referred to as respectful perinatal care) as that which is “organized for and provided to all women in a manner that maintains their dignity, privacy and confidentiality, ensures freedom from harm and mistreatment, and enables informed choice and continuous support during labor and childbirth.”^{10(p3)} The WHO guidelines for COVID-19 clinical management state that all pregnant people, including those with suspected or confirmed COVID-19 infection, should have access to high-quality perinatal care that is respectful, person-centered, and skilled.¹¹ Yet, health system policies in response to the COVID-19 pandemic have deemphasized many aspects of high-quality perinatal care including respect, dignity, informed choice, early skin-to-skin contact with the newborn, and continuous support during labor and birth and have potentially exacerbated harmful birth experiences.^{4,5}

Individuals who identify as Black, Indigenous, and people of color (BIPOC) were disproportionately impacted by higher rates of maternal morbidity and mortality^{12–14} in the prepandemic United States. Quality of perinatal care, from preconception to postpartum, is critical to reducing inequities in health outcomes for BIPOC birthing people.¹⁵ BIPOC communities also have higher rates of infection and death from COVID-19.^{16,17} Disparities in maternal mortality and

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Quick Points

- ◆ As US coronavirus disease 2019 (COVID-19) cases increased, birthing persons' autonomy decreased significantly.
- ◆ People of color were less likely than their white counterparts to experience high-quality perinatal care during the US COVID-19 pandemic.
- ◆ Participants who had a vaginal birth, a midwife provider, or who gave birth at home or in a birth center were most likely to experience high-quality perinatal care.

morbidity and the disparately high impact of COVID-19 in BIPOC communities are associated with similar preexisting inequities¹⁸ arising from systemic and structural racism,^{19–23} including inequities in the quality of perinatal care.²² Structural racism is “the totality of ways in which societies foster racial discrimination, through mutually reinforcing inequitable systems (in housing, education, employment, earnings, benefits, credit, media, health care, criminal justice, and so on) that in turn reinforce discriminatory beliefs, values, and distribution of resources, which together affect the risk of adverse health outcomes.”^{19(p1454)} To improve perinatal health and COVID-19 related outcomes for individuals from BIPOC communities, it is essential to identify and call out the structural racism that perpetuates these inequities.^{20,22,24} The US health care system has been deeply strained by the COVID-19 pandemic.²⁵ Lessons learned during this crisis can help improve care going forward and build resiliency during future public health emergencies. Therefore, this study sought to explore the quality of perinatal care during the COVID-19 pandemic in the United States with a health equity lens.

METHODS

The results reported here were collected in the preliminary phase of an ongoing, cross-sectional, explanatory sequential mixed-methods study exploring experiences of pregnancy and birth and decision-making about birth setting during the COVID-19 pandemic in the United States. Analysis of the qualitative data is ongoing and will be reported elsewhere.

Questionnaire Development and Measures

We developed a cross-sectional web-based self-administered questionnaire in the Qualtrics platform (Qualtrics, Provo, UT). The questionnaire included screening questions to determine eligibility; questions about COVID-19 birth experience, birth setting, and perinatal care provider; the Mother's Autonomy in Decision Making (MADM) scale;²⁶ and the Mothers on Respect Index (MOR).²⁷ The online questionnaire was content validated prior to the start of the study by a diverse group of 10 individuals who were pregnant or postpartum community members ($n = 4$) and/or worked as perinatal care professionals or trainees ($n = 6$) (eg, providers, nurses, doulas). Based on their feedback, the questionnaire was edited for content, clarity, and sensitivity.

The 2 validated instruments included in the survey measure agency in decision-making for perinatal care (MADM

scale)²⁶ and experiences of respectful perinatal care (MOR).²⁷ Participants rate their ability to state their preferences in decision-making, whether different care options were presented, and if their choices were respected on the 7-item MADM scale. Each item is scored 1 to 6 with a lower score indicating less autonomy; scores range 7 to 42. Participants describe their experiences of respectful care from their perinatal care provider (midwife or physician) and their associated level of comfort in the decision-making process on the 14-item MOR scale. Each item is scored 1 to 6, with a lower score indicating less respect; scores range 14 to 84. Higher scores on each scale indicate greater autonomy and respect when engaging in decision-making during pregnancy and birth. Both MADM and MOR display high reliability and internal consistency when validated in US populations.^{26,27}

In the framework for quality maternal and newborn care, respect is a key value.¹ Other key values of quality maternal and newborn care include strong communication, delivering care that strengthens the person's capabilities, and care tailored to the birthing person's circumstances and needs.¹ These aspects of care are measured in the MADM.²⁶ To capture the general experience of perinatal care and to make the scores on the MADM and MOR more clinically relevant, we created a dichotomous variable capturing the quality of perinatal care experienced. We define quality of perinatal care based on measures of respectful and autonomous perinatal care as measured by the MADM and MOR scales. We created a dichotomous variable of low-quality versus high-quality perinatal care. Participants who scored in the lowest quartile of scores in our sample on the MADM (score <26) and/or MOR (score <65) were categorized as receiving low-quality perinatal care. Those who scored higher than the lowest quartile on both MADM and MOR scores in our sample were categorized as receiving high-quality perinatal care.

Participants who self-identified as any race or ethnicity other than non-Latinx white were categorized into a dichotomous variable as BIPOC and white, non-Latinx participants were categorized as non-BIPOC.

Data Collection, Sampling, and Recruitment

We administered a web-based questionnaire to minimize infection risk and maximize participation rate and geographic diversity. Data were collected from June to November 2020, and each participant provided informed consent prior to completing the questionnaire if they met eligibility criteria. Adults (>18 years of age) who gave birth in the United States after March 15, 2020, were eligible to participate. This study was

approved by the Yale University Institutional Review Board (identifier: MOD00032835).

Recruitment was accomplished through a variety of methods. Information about the study and a link to the study webpage was shared in an electronic newsletter to alumni of an advanced practice nursing and midwifery program in the Northeastern United States and to the University's general alumni organization. Information about the study was also shared via social media (Facebook, Twitter, Instagram) through the personal and professional contacts of the research team. Study information was disseminated to professional organizations of doulas, lactation consultants, and childbirth advocacy groups to pass on to their members. We encouraged participants to refer other eligible participants, thereby employing a form of snowball sampling. While the questionnaire was active, we noted a lack of racial and ethnic diversity in our sample and made additional efforts to reach out to BIPOC communities and individuals through social media, the research team's personal and professional contacts, and organizations for BIPOC birth professionals and advocates.

Data Analysis

Responses were geocoded by participant-provided zip code in ArcGIS PRO (ESRI, Redlands, CA) to determine county of residence in the week prior to giving birth. The counties were linked to county-level COVID-19 outbreak data²⁸ to determine the number of positive COVID-19 cases reported in the county on the date each participant gave birth and to calculate case-density using the 2019 population of each county.²⁹ Descriptive statistics, bivariate, and multivariate regression models were performed in SAS 9.4 for Windows. STROBE guidelines for reporting cross-sectional studies³⁰ were followed.

RESULTS

Sample

A total of 707 participants from 46 states and the District of Columbia completed the questionnaire (Table 1). Most (64%) were between the ages of 25 and 34 years and gave birth to their first (43%) or second (39%) child in 2020. They most commonly gave birth in April (28%), followed by May (19%) and June (14%), and 73% had a vaginal birth. Participants were most likely to identify as white (86%), privately insured (83%), educated at the baccalaureate level (40%) or higher (41%), and to live in the Northeast (31%) or Midwest (31%). Most participants received care from an obstetrician (70%), and 29% were attended by a midwife for their prenatal care and birth. Most gave birth in a hospital (77%) and many gave birth at home (10%).

Bivariate Models

Bivariate analyses (Table 1) of experiences of high-quality perinatal care varied significantly by race and ethnicity ($P = .02$), BIPOC identification ($P = .007$), provider type ($P < .001$), mode of birth ($P = .005$), birth setting ($P = .001$), and satisfaction with experience ($P < .0001$). Participants who were nonwhite race, identified as BIPOC, had an obstetrician

provider, had a cesarean or assisted vaginal birth, gave birth in a hospital, and who were dissatisfied with their experience reported receiving low-quality care more frequently.

Association with the 2020 COVID-19 Pandemic

Zip codes were available and geocoded for 668 participants (Figure 1) and were included in the regression analyses related to COVID-19 cases. The minimum number of COVID-19 cases in the county of residence on the date the participant gave birth was 0 and the maximum was 139,017. The median number of cases in the county on the date the participant gave birth was 3,049. The maximum density of COVID-19 cases in residence county was 7189 per 100,000 county residents.

Median MADM scores (range, 7-42) were 32 (interquartile range [IQR], 26-38) and median MOR scores (range, 31-84) were 74 (IQR 65-80). Quartiles were set based on analysis of MADM and MOR scores for this cohort (Table 2). MADM and MOR scores met assumptions for normality based on skewness and kurtosis. In unadjusted and adjusted (adjusted for maternal age, parity, and geographic region) linear regression analyses (Table 3), birthing people experienced less autonomy in decision-making (MADM scores decreased) as the number of COVID-19 cases in the county increased (adjusted $P = .04$). For each additional COVID-19 case in the county, the MADM score decreased by 3.6×10^{-5} points. Experiences of respectful care (MOR scores) were not significantly different as number of COVID-19 cases increased in the county (adjusted $P = .06$).

Participants described many mandatory changes to their labor, birth, and postpartum care due to the pandemic (Table 4). The most common changes to care were restrictions on the number of support people present during labor and birth (83%) and on the number of postpartum visitors (82%). The next most common changes were setting-based: being restricted to their room while in the hospital (51%) and a shorter postpartum hospital stay (50%). Other frequent changes to care included mandatory COVID-19 testing (45%) and a requirement to wear a mask during labor and birth, regardless of COVID-19 status (34%).

Experiences of High-quality Perinatal Care during COVID-19

One in 3 participants (33%) indicated they did not experience high-quality perinatal care (Table 1). In models adjusted for geographic region, parity, and maternal age, when giving birth during the COVID-19 pandemic in the United States, BIPOC birthing people were 42% less likely to experience high-quality perinatal care than those who identified as white, non-Latinx (adjusted odds ratio [aOR], 0.58; 95% CI, 0.39-0.99; Table 5). Participants who had a midwife provider were 3 times more likely to experience high-quality perinatal care than those who had an obstetrician (aOR, 2.98; 95% CI, 1.97-4.53). Participants who gave birth at home had a threefold higher likelihood of experiencing high-quality perinatal care than those participants who gave birth in a hospital (aOR, 3.03; 95% CI, 1.48-6.24). Participants who had a vacuum-assisted or forceps-assisted vaginal birth were 61% less likely

Table 1. Descriptive Statistics for Individuals in the United States Who Gave Birth during the COVID-19 Pandemic, 2020 (N = 706)				
Characteristics	Total, n (%)	High-Quality^a Perinatal	Low-Quality^b Perinatal	P Value^c
		Care, n (%)	Care, n (%)	
Total, n (%)	706 (100)	476 (67.4)	230 (32.6)	
Maternal age, y				.62
18-24	28 (4.0)	21 (75.0)	7 (25.0)	
25-34	454 (64.2)	305 (67.2)	149 (32.8)	
35-44	223 (31.5)	149 (66.8)	74 (33.2)	
45+	2 (0.3)	2 (100)	0 (0)	
Race and ethnicity^d				.02
American Indian/Alaska Native	6 (0.9)	3 (50.0)	3 (50.0)	
Asian/Pacific Islander	14 (2.0)	7 (50.0)	7 (50.0)	
Black	25 (3.6)	10 (40.0)	15 (60.0)	
Latinx	65 (9.7)	42 (64.6)	23 (35.4)	
Other	3 (0.5)	16 (66.7)	8 (33.3)	
Multiracial	24 (3.4)	14 (58.3)	10 (41.7)	
White	610 (86.2)	425 (69.7)	185 (30.3)	
BIPOC^e				.007
Yes	121 (17.1)	69 (57.0)	52 (43.0)	
No	586 (82.9)	408 (69.6)	178 (30.4)	
Highest level of education completed				.95
No high school diploma	3 (0.4)	2 (66.6)	1 (33.3)	
High school diploma or GED	19 (2.7)	14 (73.7)	5 (26.3)	
Some college or 2-yr degree	112 (15.8)	74 (66.1)	38 (33.9)	
4-yr degree	281 (39.8)	195 (69.4)	86 (30.6)	
Postgraduate degree	292 (41.2)	192 (65.8)	100 (34.2)	
Health insurance type				.21
Commercial	582 (82.3)	396 (68.0)	186 (32.0)	
Medicaid	70 (9.9)	43 (61.4)	27 (38.6)	
Indian Health Service	1 (0.1)	1 (100)	0 (0)	
Tricare	22 (3.1)	19 (86.4)	3 (13.6)	
Other	25 (3.6)	14 (56.0)	11 (44.0)	
No insurance	7 (1.0)	4 (57.1)	3 (42.9)	
Parity				.02
1	304 (43.1)	186 (61.2)	118 (38.8)	
2	275 (39.0)	189 (68.7)	86 (31.3)	
3	92 (13.9)	73 (79.4)	19 (20.7)	
4+	35 (5.0)	28 (80.0)	7 (20.0)	
Region of residence^f				.49
Northeast	220 (31.2)	142 (64.5)	78 (35.5)	
South	189 (26.8)	125 (66.1)	64 (33.9)	
Midwest	218 (30.9)	153 (70.2)	65 (29.8)	
West	78 (11.1)	56 (71.8)	22 (28.2)	
Provider type				<.0001
Midwife	205 (29.0)	171 (83.4)	34 (16.6)	

(Continued)

Table 1. Descriptive Statistics for Individuals in the United States Who Gave Birth during the COVID-19 Pandemic, 2020 (N = 706)

Characteristics	Total, n (%)	High-Quality ^a Perinatal	Low-Quality ^b Perinatal	P Value ^c
		Care, n (%)	Care, n (%)	
Family physician	7 (1.0)	6 (85.7)	1 (14.3)	
Obstetrician	492 (69.7)	299 (60.7)	194 (39.4)	
Mode of birth				.005
Vaginal	515 (73.0)	358 (69.5)	157 (30.5)	
Cesarean	162 (23.0)	106 (65.4)	56 (34.6)	
Assisted vaginal	29 (4.1)	12 (41.4)	17 (58.6)	
Birth setting				.001
In hospital or attached birth center	64 (9.1)	46 (71.9)	18 (28.1)	
Freestanding birth center	21 (3.0)	18 (85.7)	3 (14.3)	
Home	70 (10.0)	60 (85.7)	10 (14.3)	
Hospital	542 (77.3)	345 (63.7)	197 (36.4)	
Month participant gave birth in 2020				.06
March	66 (9.9)	35 (53.0)	31 (47.0)	
April	189 (28.3)	124 (65.6)	65 (34.4)	
May	131 (19.6)	89 (67.9)	42 (32.1)	
June	98 (14.7)	70 (71.4)	28 (28.6)	
July	91 (13.6)	62 (68.1)	29 (31.9)	
August	65 (9.8)	45 (69.2)	20 (30.8)	
September	24 (3.6)	22 (91.7)	2 (8.3)	
October	2 (0.3)	1 (50.0)	1 (50.0)	
November	1 (0.2)	1 (100)	0 (0)	
Satisfaction with birth experience				<.0001
Very satisfied	465 (69.5)	365 (78.5)	100 (21.5)	
Somewhat satisfied	126 (18.8)	63 (50.0)	63 (50.0)	
Neutral	32 (4.8)	7 (21.9)	25 (78.1)	
Somewhat dissatisfied	28 (4.2)	10 (35.7)	18 (64.3)	
Very dissatisfied	18 (2.7)	4 (22.2)	14 (77.8)	

Abbreviations: BIPOC, Black, Indigenous, and people of color; GED, general educational development test (high school diploma equivalent).

^a High-quality perinatal care defined as a score of >25 on the Mother's Autonomy in Decision Making (MADM) and a score >64 on the Mothers on Respect Index (MOR).

^b Low-quality perinatal care defined as a score of <26 on the MADM and/or a score <65 on the MOR.

^c χ^2 test.

^d Participants identified as a race and Latinx ethnicity separately. Participants who identified as white and Latinx were included in BIPOC.

^e BIPOC: participant self-identified as Latinx or any race other than white.

^f Regions of residence: Northeast (CT, MA, ME, NH, NJ, NY, PA, RI, VT), South (AL, AR, DC, DE, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, WV), Midwest (IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI), West (AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY).

Table 2. Experiences of Autonomy and Respect in Perinatal Care for People Giving Birth during the COVID-19 Pandemic in the United States, 2020 (N = 707)

	Autonomy (MADM)	Respect (MOR)
Mean (SD)	30.95 (8.25)	71.24 (10.42)
Median (IQR)	32 (26-38)	74 (65-80)
Range	7-42	31-84

Abbreviations: IQR, interquartile range; MADM, Mother's Autonomy in Decision Making; MOR, Mothers on Respect Index.

to experience high-quality perinatal care than those who had an unassisted vaginal birth (aOR, 0.39; 95% CI, 0.18-0.86).

DISCUSSION

Among our national sample of people who gave birth during the US COVID-19 pandemic, we found that having a home birth and having a midwife as primary perinatal care provider increased the likelihood of experiencing high-quality perinatal care. Furthermore, people who identified as BIPOC and those who had an assisted vaginal birth with forceps or vacuum were significantly less likely to experience high-quality perinatal care. Our findings are similar to the findings of the *Giving Voice to Mothers* study.³¹ In both studies, autonomy and respect were more likely to be compromised for individuals who gave birth in a hospital, who identified as BIPOC, or had an obstetrician as their primary perinatal care provider.

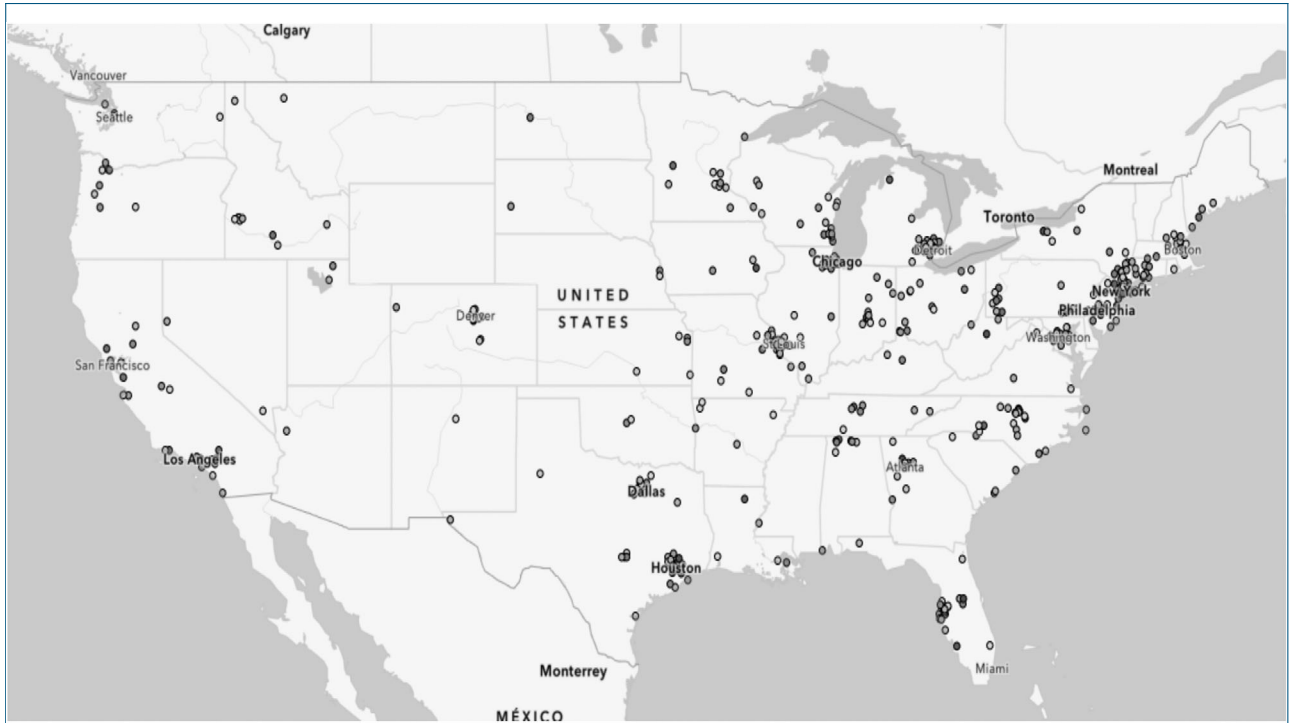


Figure 1. Location of Participants Who Completed an Online Questionnaire about Experiences of Birth during the 2020 US COVID-19 Pandemic (N = 668)

Table 3. Associations between Number of COVID-19 Cases in a County and Experiences of Autonomy and Respect in Perinatal Care for People Giving Birth during the COVID-19 Pandemic in the United States, 2020 (N = 668)

	Autonomy (MADM score)				Respect (MOR score)			
	Beta ^c	SE ^c	P Value	adj P value	Beta ^c	SE ^c	P Value	adj P Value
Number of COVID-19-positive tests in county on DOB	-0.00003592	0.00001458	.01	.01	-0.00003470	0.00001853	.06	.06
Intercept	31.43	0.374	< .0001	.004	71.67	0.475	< .0001	.14

Abbreviations: adj, adjusted; COVID-19, coronavirus disease 2019; DOB, date participant's 2020 birth occurred; MADM, Mother's Autonomy in Decision Making; MOR, Mothers on Respect Index.
^a R² = .010, adjusted R² = .044
^b R² = .005, adjusted R² = .027
^c Beta and SE for unadjusted regression.
^d Adjusted for maternal age, parity, and geographic region.

The midwifery model of care exemplifies the tenets of quality perinatal care, which are captured in the values of the quality maternal and newborn care framework^{1,32} and fall within the definition of respectful perinatal care.^{33,34} Midwifery care is associated with higher rate of vaginal birth,³⁵ and among our sample, having a vaginal birth and having a midwife provider were each significantly associated with experiencing high-quality perinatal care. Nationally, 10% of all births are attended by midwives and slightly over 98% of women give birth in a hospital.³⁶ In our sample, 29% of participants were attended by midwives and 10% gave birth at home. This increased use of midwifery care may explain the higher rate of vaginal birth in our sample (73%) compared with the US rate of 68%.³⁶ The United States is an outlier among high income countries for the high rate of cesarean birth, high

rate of maternal morbidity and mortality, and low midwife to physician ratio.³⁷ Reducing the rate of cesarean birth and promoting normal physiologic birth is a globally recognized means to improving maternal outcomes that is strongly associated with midwifery care.¹

Participants reported many mandatory changes in their care due to the COVID-19 pandemic. A majority of individuals had limitations placed on the presence or number of support people present during labor and birth. Many were separated from their newborns and were limited in their options for pharmacologic and nonpharmacologic pain relief during labor. Sadler and colleagues postulate that mandatory changes to care during the COVID-19 pandemic, such as prohibition on labor support persons, separation from the newborn, and nonmedically indicated interventions, all of which

Table 4. Mandatory Changes in Peripartum Care Due to COVID-19 Pandemic, United States, 2020 (N = 701)

Mandatory Change	n (%)
Peripartum	
Restricted to room while inpatient	358 (51.0)
Mandatory COVID-19 testing for birthing person	312 (44.5)
Required to wear a mask throughout labor and birth regardless of COVID-19 status	238 (34.0)
Required to wear a mask through labor and birth if COVID-19 status unknown or positive	173 (24.7)
Mandatory COVID-19 testing for support person	60 (8.6)
Birth in a different area of the hospital	33 (4.7)
Birth in a different hospital	21 (3.0)
Intrapartum	
Restriction on the number of support people in labor	584 (83.3)
Restriction on having a doula attend the birth	243 (34.7)
No support person allowed in labor	158 (22.5)
Restriction on the use of nitrous oxide in labor	131 (18.7)
No use of tub or hydrotherapy for labor or birth	71 (10.1)
Postpartum	
Restriction on number of visitors after birth	576 (82.2)
Shorter postpartum hospital stay	347 (49.5)
Separation from newborn after birth	112 (16.0)

Abbreviation: COVID-19, coronavirus disease 2019.

Table 5. Likelihood of Experiencing High-Quality Perinatal Care^a for People Giving Birth during the COVID-19 Pandemic in the United States, 2020 (N = 707)

	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Racial Identity		
White	Ref	Ref
BIPOC	0.58 (0.39-0.86)	0.58 (0.39-0.99)
Provider type		
Obstetrician	Ref	Ref
Midwife	3.26 (2.17-4.92)	2.98 (1.97-4.53)
Family physician	3.89 (0.47-32.58)	3.21 (0.37-28.18)
Mode of birth		
Vaginal	Ref	Ref
Cesarean	0.83 (0.57-1.21)	0.91 (0.62-1.34)
Vacuum- or forceps-assisted vaginal	0.31 (0.14-0.66)	0.39 (0.18-0.86)
Birth setting		
Hospital	Ref	Ref
Attached or in-hospital birth center	1.46 (0.82-2.59)	2.83 (0.73-2.38)
Freestanding birth center	3.43 (0.99-11.78)	1.42 (0.80-9.99)
Home	3.43 (1.72-6.84)	3.03 (1.48-6.24)

Abbreviations: BIPOC, Black, Indigenous, person of color (participant self-identified as any race other than white or as Latinx ethnicity); OR, odds ratio; Ref, reference.

^aHigh-quality perinatal care defined as a score of >25 on the Mother's Autonomy in Decision Making and a score >64 on the Mothers on Respect Index.

^bAdjusted for region, parity, and maternal age.

do not achieve the objective of limiting the spread of COVID-19 and decrease maternal autonomy and dignity, are equivalent to obstetric violence.⁵

In our study, 1 in 3 participants reported that they did not receive high-quality perinatal care during the COVID-19 pandemic. Participants who identified as BIPOC (racial

and ethnic minorities) were less likely to experience high-quality perinatal care than white participants, which is similar to experiences reported by BIPOC participants in other studies.^{31,38,39} The quality of health care received, from preconception through postpartum care, may be a “critical lever for improving outcomes for racial and ethnic

minority women.^{12(p2)} There is significant research showing that experiences of disrespectful care and mistreatment by health care providers, including racism and racial discrimination, are linked to health and specifically to negative birth outcomes for women and infants of color.^{40–43}

Lack of high-quality, person-centered perinatal care, poor communication, and mistreatment during labor and birth can create a feeling of distrust of caregivers⁴⁴ and stress, anger, and distress in the relationship with their perinatal care provider.⁴⁵ Participants in Oparah and colleagues' 2016 study reported numerous instances in which they felt coerced or were denied full informed consent,⁴⁵ which indicates lower-quality perinatal care. BIPOC people's experiences of low-quality care exemplified by discrimination, poor communication from providers, and coercion in their reproductive care increase levels of health care system distrust, which contributes to racial disparities in health care.⁴⁶ Higher levels of health system distrust have been associated with less preventative health services use among lower-income Black Americans.⁴⁷

Strengths and Limitations

To our knowledge, this is the first large-scale study to describe individuals' experiences giving birth in the United States during the 2020 COVID-19 global public health crisis. The study's focus on health equity in maternal health corresponds to the latest priorities of the US Surgeon General and Department of Health and Human Services.^{48,49} Although the experiences of our participants occurred during a global health crisis, their mean scores on the MADM and MOR were slightly higher than in a comparable pre-COVID-19 US national sample,³⁹ and median scores were higher than pre-COVID-19 Australian and German samples.^{50,51}

This study is not without limitations, as it is subject to selection bias owing to being a self-administered questionnaire and recruitment through birth advocacy social media sites, midwives, and doula networks. Furthermore, despite repeated attempts to do so, we were unable to recruit a representative percentage of participants from BIPOC communities nor were our participants geographically representative of the entire United States.

Implications for Practice, Research, and Policy

We anticipate that there will be future episodes of uncertainty and chaos in public health, related not only to the current pandemic but also to the increasing incidence of health system threats arising from major weather events, large-scale human migration, and changing patterns of infectious disease. The current pandemic has highlighted existing health system weaknesses, including those identified in our study, which demand correction in times of health system disruption as well as in times of normal functioning. Perinatal care, as an essential service, must continue despite uncertainty and strain on the health system. Our finding that 1 in 3 people lacked high-quality, person-centered care points to the need for further training in respectful perinatal care, especially in rapidly changing or uncertain situations. Antiracist, cultural humility, and structural competency trainings for providers and hospi-

tal staff^{45,52,53} can help to lessen the inequities in experiences of person-centered care due to racial discrimination.

This study highlights the need for further research in many areas related to health equity in maternal health. Further qualitative research is needed to understand what women need to feel they are respected and in control of their own health care needs, especially during the important life transition of pregnancy and childbirth. More research is needed, especially with marginalized groups (racial and ethnic minorities, socioeconomically disadvantaged, and rural residents), about the long-term and intergenerational biosocial, physiologic, and psychologic effects of perinatal care that is not person-centered or high-quality, as pregnancy and birth are important and vulnerable transition stages. Additional research to further quantify and measure quality perinatal care is also necessary for comparison across models of care, settings, and health systems.

Policy changes addressing structural racism, which is currently perpetuating inequities in social determinants of health that impact maternal health⁵⁴ (residential environment, education, employment, and access to high-quality care), are overdue.²⁰ Incorporating cultural humility and structural competency into physician, midwifery, and nursing curricula via a national mandate may help to improve rates of implicit bias and discrimination from providers at the outset of their careers.^{51,52} Policy support in the form of amendments to midwifery licensure and supervision regulations, as well as improved reimbursement policies, is necessary to provide additional support for community birth and midwifery care.^{35,37}

CONCLUSION

During times of uncertainty in public health and strain on the health systems, it is crucial to deliver perinatal care in a respectful manner to avoid trauma, adverse maternal and neonatal health outcomes, and decreased trust and health care use, especially among our most marginalized communities.

CONFLICT OF INTEREST

The authors have no conflicts of interest to disclose.

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