

**Table 2.** Primary and secondary outcomes by participation in any obstetric study

OUTCOME	Participation in study (N=3,848)	No participation in study (N=15,721)	aOR (95% CI) <sup>a</sup>
Composite maternal outcome	8.7	9.2	0.87 (0.76 - 0.99)
pRBC transfusion	3.1	3.7	0.92 (0.75 - 1.14)
Endometritis	0.7	0.5	1.43 (0.91 - 2.23)
Wound infection/complication	3.0	2.3	0.97 (0.78 - 1.21)
Postpartum ICU admission	0.4	0.9	0.56 (0.34 - 0.95)
Postpartum readmission	4.1	4.4	0.95 (0.79 - 1.14)
Hysterectomy	0.2	0.5	0.72 (0.35 - 1.44)
Maternal death	0.0	0.1	0.10
Maternal length of stay (days)	3.9 ± 3.9	4.1 ± 4.9	0.03
Gestational age at delivery (weeks)	38.2 ± 3.1	37.1 ± 4.6	<0.001
Composite intrapartum outcome	16.4	14.4	0.99 (0.90 - 1.10)
Rupture of membranes > 18 hours	12.3	10.0	0.99 (0.88 - 1.12)
Chorioamnionitis	5.9	5.5	0.90 (0.77 - 1.05)
Cesarean delivery	40.3	31.7	1.48 (1.37 - 1.60)
Severe vaginal laceration <sup>b</sup>	1.2	1.6	0.07
Episiotomy	0.8	1.5	0.59 (0.39 - 0.89)
Composite neonatal outcome	18.6	27.5	0.75 (0.66 - 0.85)
Fetal death	0.5	2.6	0.33 (0.19 - 0.59)
5 minute APGAR < 5	2.8	6.0	0.91 (0.71 - 1.17)
Arterial pH < 7.0	1.0	0.9	1.09 (0.73 - 1.62)
NICU admission	17.3	24.0	0.68 (0.61 - 0.76)
Neonatal death	0.5	1.4	0.67 (0.40 - 1.11)
Neonatal birthweight (g)	3058.1 ± 710.0	2878.2 ± 918.3	<0.001
Neonatal length of stay (days)	6.5 ± 16.4	9.9 ± 23.0	<0.001

Data presented as % and mean ± SD as appropriate  
<sup>a</sup>Backwards selection generated parsimonious regression models including the following variables: age, BMI, insurance status, marital status, nulliparity, tobacco use, chronic hypertension, pregestational diabetes, gestational diabetes, preeclampsia, gestational age at delivery, mode of delivery, mode of anesthesia, and composite intrapartum outcome. P-values presented in cases of a continuous variable or if the model did not converge  
<sup>b</sup>Severe vaginal laceration: cervical laceration, 3<sup>rd</sup> or 4<sup>th</sup> degree laceration

White women may be due to the rising obesity rate which underscores need for obesity prevention. While the stillbirth rate continues to decline for Black women, they are twice as more likely to experience a stillbirth when compared to White women. This race disparity is concerning and suggests broader inequalities at play.

**Table**  
 Age-standardized stillbirth rates among Black and White pregnant women aged 12-49 years: United States 1980 and 2019

	Number of births	Number of stillbirths	Stillbirth rate (95% confidence interval) per 1000 births	
			Crude	Age-standardized
<b>Total population</b>				
1980	2,626,816	28,068	10.7 (10.6, 10.8)	10.8 (10.7, 10.9)
2019	3,761,532	21,469	5.7 (5.6, 5.8)	5.7 (5.7, 5.8)
Rate ratio (95% CI)			0.53 (0.52, 0.54)	
<b>White women</b>				
1980	2,163,525	20,006	9.2 (9.1, 9.4)	9.4 (9.3, 9.5)
2019	2,799,951	13,655	4.9 (4.8, 5.0)	4.9 (4.8, 5.0)
Rate ratio (95% CI)			0.53 (0.52, 0.54)	
<b>Black women</b>				
1980	388,754	6,825	17.6 (17.1, 18.0)	18.0 (17.5, 18.4)
2019	638,375	6,316	9.9 (9.7, 10.1)	10.0 (9.8, 10.3)
Rate ratio (95% CI)			0.56 (0.54, 0.58)	

**1220** Changes in stillbirth rates among Black and White pregnant women in the United States, 1980-2019



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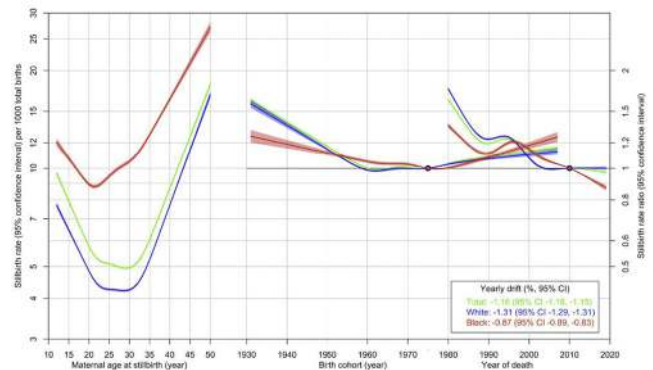
**OBJECTIVE:** Despite the decline in the US since the 1940s, stillbirth remains a huge burden. We examine changes in stillbirth rates for Black and White pregnant women and determine how maternal age, year of delivery (period), and maternal birth year (cohort) have shaped stillbirth trends. We also investigate the contributions of increasing obesity and declining smoking rates on these trends.

**STUDY DESIGN:** We designed a sequential time-series analysis using the vital records data of 153 million live births and stillbirths (at ≥ 20 weeks' gestation) in the US from 1980-2019. Trends in stillbirth were derived through age-period-cohort (APC) models. The effect of changes in yearly US obesity and smoking rates on stillbirth trends were evaluated from multilevel models.

**RESULTS:** Age-standardized stillbirth rate declined from 10.8 to 5.7 per 1000 total births between 1980 and 2019, yet there is a persistent 2-fold race disparity in the rate between Black and White women (Table). The APC analysis shows a strong age effect with extremes of age having the greatest risk for stillbirth for all women (Figure). Importantly, the nadir in stillbirth rates occurs 10 years earlier for Black women (early 20s) than White women (early 30s). The recent period effect since the mid-2000s shows a plateauing stillbirth rate for White women versus a continued decline for Black women. Those born in earlier cohorts (1930-1955) had increased stillbirth rates with a greater impact on White women. Changes in the population prevalence of period-specific obesity and smoking accounted for 60% and 11%, respectively, in stillbirth trends.

**CONCLUSION:** Age, period, and cohort have strongly influenced changes in stillbirth rates among Black and White women over the last forty years in the US. The recent plateau in stillbirth among

**Figure**  
 Age-period-cohort analysis of stillbirth trends among Black and White pregnant women aged 12-49 years in the United States, 1980 to 2019



**1221** Association between maternal Sars-CoV-2 infection and fetal growth restriction (FGR) at a single county hospital



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**OBJECTIVE:** Prior studies have shown maternal viral infections are associated with fetal growth restriction (FGR); however, the relationship between FGR and Sars-CoV-2 (SCOV2) infection during pregnancy remains unclear. In this study, we investigate the association between FGR & parental SCOV2 infection at a county hospital in Atlanta, Georgia.

**STUDY DESIGN:** A prospective cohort study was created by matching patients who had positive SCOV2 (PSCOV2) and negative SCOV2 (NSCOV2) PCR tests between 1/2020-4/2021 utilizing an institutional database. Cohorts were drawn from patients who received a 3<sup>rd</sup> trimester ultrasound (3TUS) & were matched by gestational age