Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Table 2 Pregnancy and delivery outcomes

Outcomes	(%)	(%)	Crude OR (95% CI)	Adjusted OR (95% CI)	Adjusted p-value
Pregnancy outcomes [a]					
Pregnancy induced hypertension	13 (7%)	60 (8.1%)	0.86 (0.46 – 1.70)	2.73 (0.58 – 12.78)	0.20
Gestational hypertension	5 (2.7%)	18 (2.4%)	1.11 (0.41 – 3.04)	3.03 (0.40 – 18.39)	0.28
Preeclampsia	6 (3.2%)	37 (5%)	0.64 (0.26 – 1.53)	2.28 (0.22 – 23.19)	0.48
Eclampsia	0 (0%)	1 (0.1%)	NA	NA	NA
Preeclampsia and Eclampsia superimposed HTN	2 (1.1%)	4 (0.5%)	2.01 (0.36 – 11.06)	NA	NA
GDM	11 (5.9%)	66 (8.9%)	0.65 (0.33 – 1.25)	0.67 (0.12 – 3.70)	0.65
Placenta previa	1 (0.5%)	2 (0.3%)	2.00 (0.18 – 22.24)	NA	NA
Delivery outcomes [b]					
PPROM	3 (1.6%)	7 (0.9%)	1.73 (0.44 – 6.74)	1.82 (0.06 – 59.16)	0.74
Preterm delivery	32 (17.3%)	54 (7.3%)	2.66 (1.66 – 4.26)	3.86 (1.25 – 11.93)	0.02
Abruptio placenta	2 (1.1%)	13 (1.8%)	0.61 (0.14 – 2.73)	NA	NA
Chorioamnionitis	4 (2.2%)	10 (1.4%)	1.61 (0.50 – 5.20)	3.32 (0.56 – 19.70	0.19
Operative vaginal delivery	9 (4.9%)	48 (6.5%)	0.74 (0.35 – 1.53)	1.87 (0.52 – 6.76)	0.34
CS	75 (40.5%)	234 (31.6%)	1.47 (1.06 – 2.05)	1.16 (0.50 – 2.69)	0.72
Spontaneous vaginal Delivery	101 (54.6%)	458 (61.9%)	0.74 (0.53 – 1.02)	0.71 (0.32 - 1.58)	0.40
Hysterectomy	0(0%)	2 (0.3%)	NA	NA	NA
PPH	6 (3.4%)	33 (4.5%)	0.97 (0.44 – 2.13)	2.50 (0.59 – 10.51)	0.21
Wound complications	1 (0.5%)	3 (0.4%)	1.33 (0.14 – 12.91)	NA	NA

Table 3 Neonatal outcomes [a]

Outcomes	(%)	(%)	Crude OR (95% CI)	Adjusted OR (95% CI)	Adjusted p-value
SGA	15 (8.1%)	13 (1.8%)	4.93 (2.30 – 10.56)	13.13 (2.20 – 78.41)	0.005
IUFD	21 (11.4%)	7 (0.9%)	13.41 (5.61 – 32.07)	20.97 (1.86 – 237.02)	0.01
Congenital Anomalies	14 (7.6%)	6 (0.8%)	10.02 (3.79 – 26.44)	9.59 (1.47 – 62.72)	0.02

1194 Down Syndrome Trends Among States With vs. Without 20-Week Abortion Bans from 2012-2018

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OBJECTIVE: Currently 18 states have 20-week abortion bans, most of which were created in the last decade. Such bans impact individuals who receive positive results on second trimester Down syndrome screening, preventing pregnant individuals from having the choice of whether or not to continue the pregnancy. As screening has also changed in this period, it is pertinent to understand how these abortion restrictions have impacted patients. We examine the trends in Down syndrome rates between states with and without 20-week abortion bans in the US.

STUDY DESIGN: A retrospective cohort study of 27,441,132 pregnancies in the US between 2012-2018 using linked vital statistics data. States were categorized as those with or without a 20-week abortion ban. States that enacted bans later than 2014 were considered not to have a ban. We used Cochrane-Armitage tests to assess trends and multivariable logistic regressions to control for maternal age, race, education, insurance, and $\geq$ 5 prenatal visits.

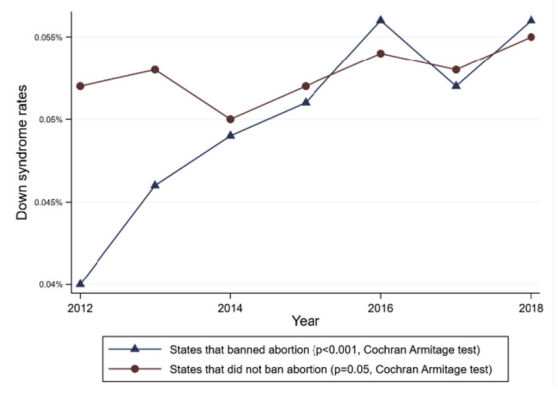
RESULTS: Our cohort consisted of 19,668,823 individuals who gave birth in states without a 20-week abortion ban and 7,772,309 who gave birth in states with a 20-week abortion ban. In states with bans, the incidence of Down syndrome diagnoses increased over time (Figure 1). In states without bans, the incidence increased minimally in a non-statistically significant fashion. When adjusting for confounders, in 2012, states with bans had a lower odds of Down syndrome diagnoses than states without bans (aOR 0.70; 95% CI 0.70-0.90), but starting in 2016 this relationship reversed (Table 1).

CONCLUSION: The incidence of Down syndrome increased significantly in states with 20-week abortion bans, in particular, more than in states that had no such bans. This finding persisted when adjusting for confounding variables. As many 20-week abortion bans were enacted near the beginning of the time period of this study, it's possible that the steep rise in Trisomy 21 cases among states with bans is related to these policies, indicating that such legislation may inhibit choice in patient decision-making.

Table 1. Trisomy 21 diagnoses by year and race from 2012-2018 in states with and without 20-week abortion bans. Multivariate analysis compares states with an abortion ban to those without an abortion ban.

Trisomy 21	States Without 20-Week Abortion Ban N=19,668,823	States With 20-Week Abortion Bans N=7,772,309	aOR (95% CI)
2012	0.05%	0.04%	0.79 (0.70, 0.90)
2013	0.05%	0.05%	0.93 (0.83, 1.04)
2014	0.05%	0.05%	1.04 (0.94, 1.16)
2015	0.05%	0.05%	1.04 (0.94, 1.16)
2016	0.05%	0.06%	1.14 (1.03, 1.26)
2017	0.05%	0.05%	1.11 (1.00, 1.23)
2018	0.06%	0.06%	1.15 (1.04, 1.28)

Figure 1. Trends in down syndrome rates among states with and without abortion bans. Cochran Armitage tests indicate if a statistically significant trend exists among each group of states.



1195 Newborn and maternal immunity following 2nd trimester mRNA COVID-19 vaccination

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OBJECTIVE: The BNT162b2 mRNA COVID-19 Pfizer vaccine administered in the 3rd trimester was found to elicit a strong maternal humoral IgG response which crosses the placenta and approaches maternal titers in the newborn. Our aim was to evaluate maternal and neonatal COVID-19 antibody levels at birth, following earlier vaccine administration during pregnancy.

STUDY DESIGN: This prospective observational study included women admitted to the delivery room, at least 7 days from their second vaccine and who were not previously infected with the virus. SARS-CoV-2 IgG antibodies were measured in the parturient and in the umbilical blood following the delivery. Subsequently, the correlation between antibody titers, feto-maternal characteristics, and the time interval from vaccination to delivery were analyzed.

RESULTS: Between May 2021 and July 2021, 130 women were recruited. Antibody titer levels were measured for 129 women and 114 neonates (born at mean±SD gestational age of 39.2±1.28 weeks) with 100% of the tests resulting positive. The means±SD gestational ages for administration of the first and second vaccine were 21.9±3.3 weeks and 24.9±3.3 weeks respectively. The median (range) level of IgG antibodies at birth was 1185.2 (146.6-32415.1) AU/ml for parturients and 3315.7 (350.1-17643.5) AU/ml for neonates; neonatal titers measured 2.6 times higher than maternal titers. A positive correlation was demonstrated between maternal and neonatal antibodies (r=0.92, p< 0.001); Multivariate analysis revealed an inverse correlation between maternal and neonatal antibody titers at delivery with the time interval from the 2nd vaccination (B= -0.018, p< 0.001, B= -0.016, p< 0.001; respectively) and with maternal age (B= -0.0318, p=0.007, B= -0.026, p=0.046; respectively).

CONCLUSION: Administration of the mRNA COVID-19 vaccine during the 2nd trimester induces a maternal humoral response which is sustained during labor and effectively transfers antibodies to the neonate. These findings support early vaccination of pregnant women to achieve longer maternal and adequate newborn safety.

Figure 1. Correlation between the time interval from the 2nd COVID-19 vaccination and maternal IgG antibodies

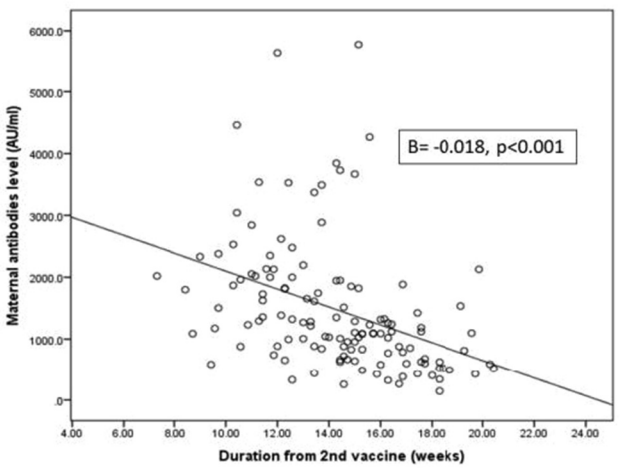
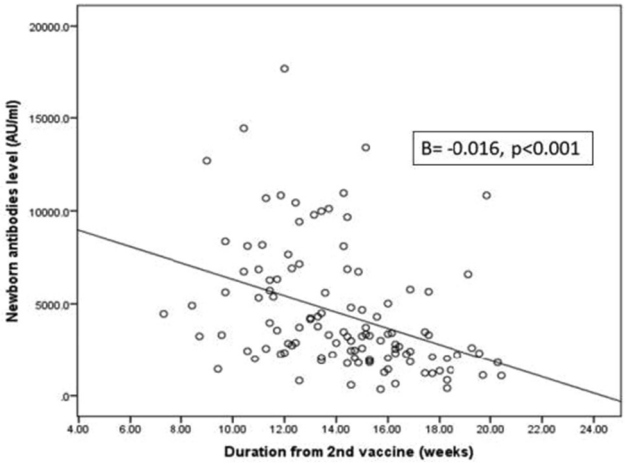


Figure 2. Correlation between the time interval from the 2nd COVID-19 vaccination and newborn IgG antibodies



1196 Clinical Impact of Implementing ACOG Antepartum Testing Recommendations: Can the Clinic Handle It?

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OBJECTIVE: A wide range of complications in pregnancy increase the risk for stillbirth. The American College of Obstetricians and Gynecologists (ACOG) recently proposed new recommendations for outpatient monitoring of high-risk pregnancies. The purpose of this quality improvement project was to calculate the increased volume of patients who would qualify for antenatal testing with this new protocol and assess the clinical impact of implementing these recommendations.

STUDY DESIGN: We performed a retrospective chart review of women with an estimated due date of June 1, 2020 to May 31, 2021. The following variables were collected: maternal demographics, high risk conditions requiring antepartum testing, and delivery information. The timing and amount of antepartum testing was determined for each patient, based on our current antepartum testing guidelines (clinic protocol), and compared to the ACOG strategy (ACOG protocol). Statistical analysis was done with descriptive statistics and z scoring to compare the total amount of testing utilized per antepartum strategy.

RESULTS: A total of 887 charts were reviewed and 668 were included in the final data analysis. The total number of tests (1855) for the clinic protocol included 637 non-stress tests, 695 biophysical profiles, 277 modified biophysical profiles, and 246 dopplers. For the ACOG protocol (2215), a total of 614 non-stress tests, 677 biophysical profiles, 688 modified biophysical profiles, and 236 dopplers would be required. An additional 107 pregnancies would have required testing and an additional 360 (z score of 2.99, p value of 0.003) antepartum testing appointments would be needed to implement the ACOG protocol (30/month and 7/week). Our cohort had 3 stillbirths, which all occurred prior to when normal antepartum testing would have started.

CONCLUSION: A total of 360 additional outpatient visits per year (19.4%) would be required for our academic clinic to implement the new ACOG fetal testing protocol. Depending on the size and