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CONCLUSION: Participants randomized to SweetMama used the app during pregnancy, demonstrating feasibility of this mHealth tool to promote diabetes-related health. App engagement was high and may be associated with improved diabetes self-efficacy. Future work is needed to evaluate its effectiveness to improve maternal and neonatal outcomes.

Table. Health services, behavioral, and clinical outcomes in participants randomized to SweetMama versus usual care

	Usual care (n=10)	SweetMama ¹ (n=30)
Health services		
Number of prenatal visits attended	6.9 (4.7)	7.9 (3.9)
Postpartum visit attendance	7 (70.0)	23 (76.7)
Postpartum OGTT completion (among GDM) ²	2 (40.0%)	5 (35.7%)
Postpartum behavioral characteristics		
Patient activation	90.8 (80.0-93.9)	86.2 (78.5-95.4)
Diabetes self-efficacy, median	3.9 (3.8-4.6)	4.4 (4.1-4.9)
Maternal outcomes		
Hypertensive disorders of pregnancy	3 (30.0%)	18 (60.0%)
Preterm birth ³	3 (30.0%)	13 (43.3%)
Cesarean delivery ³	4 (40.0%)	16 (53.3%)
Neonatal outcomes⁴		
Birthweight, grams	2925 (2575-3470)	3030 (2630-3620)
Neonatal intensive care unit admission	4 (44.4%)	13 (41.9%)
Neonatal hypoglycemia (<40 mg/dL) ⁵	1 (11.1%)	5 (16.1%)
Neonatal treatment for hypoglycemia ⁵	4 (44.4%)	16 (51.6%)
Maternal glycemic control		
HbA1c improvement by >1% ⁶	6 (60.0%)	16 (53.3%)
HbA1c within 4 weeks of delivery ⁶	5.70 (5.40, 6.90)	5.90 (5.60, 6.50)
Outpatient glucose values out of range	59% (31-66%)	37% (23-58%)

Data displayed as N (%) or median (interquartile range).

OGTT, oral glucose tolerance test; GDM, gestational diabetes; HbA1c, hemoglobin A1c

- No differences between groups achieved statistical significance
- Among patients with GDM and OGTT ordered by provider (n=5 usual care, n=14 SweetMama).
- Excluding 1 due to pregnancy termination.
- Excluding 1 due to termination, and including 1 set of twins (n=9 usual care / n=31 SweetMama)
- Also excluding 1 with missing data due to delivery at outside hospital.
- Excluding 2 with no follow-up HbA1c drawn.

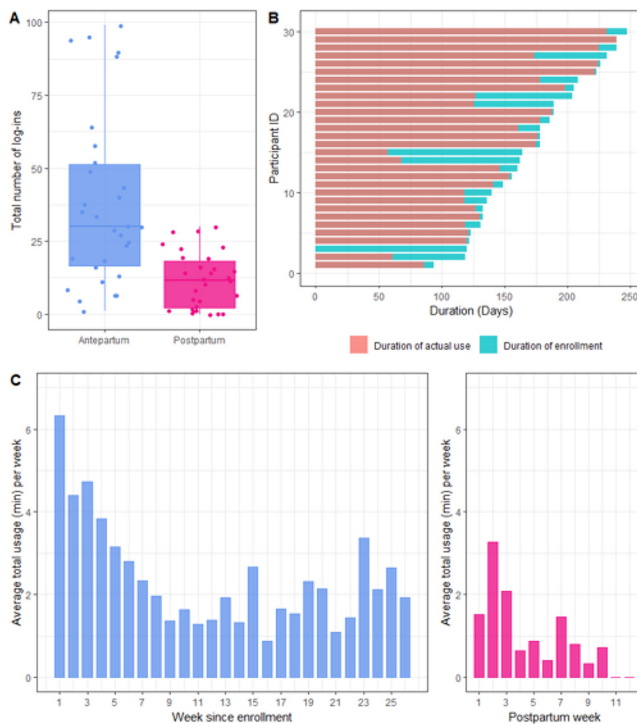


Figure 3: SweetMama user metrics during feasibility trial
 A. Median total number of log-ins during SweetMama enrollment, by antepartum versus postpartum status
 B. Duration of actual use (time from first log-in to last log-in) as a proportion of total enrollment duration, by participant
 C. Mean total minutes of use by week from enrollment in the antepartum (blue) and postpartum (pink) periods.

457 Racial disparities in acceptability of maternal influenza and COVID-19 vaccination

Roxanne Unger¹, Rebecca F. Hamm²,
 Jourdan E. Triebwasser³, Kimberly K. Trout¹,
 Lisa D. Levine⁴, Cara D. Dolin⁵

¹Pennsylvania Hospital, Philadelphia, PA, ²University of Pennsylvania, Department of Obstetrics & Gynecology, Perelman School of Medicine, Philadelphia, PA, ³Perelman School of Medicine, University of Pennsylvania, Division of Maternal-Fetal Medicine, Philadelphia, PA, ⁴Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, ⁵University of Pennsylvania, Philadelphia, PA

OBJECTIVE: We aimed to (1) determine acceptability of maternal influenza and COVID-19 vaccination during pregnancy by race, and (2) identify reasons for vaccine hesitancy in pregnancy.

STUDY DESIGN: This single-site, prospective cohort study of pregnant patients was performed from 11/2020-3/2021, during the COVID-19 global pandemic and the US FDA Emergency Use Authorization for COVID-19 vaccines. English-speaking patients were approached by the study team during delivery hospitalization to complete a single, self-administered, 14-item adapted survey on attitudes around influenza and COVID-19 vaccination. The primary outcome was reported acceptability of vaccination with results stratified by self-reported race (white versus BIPOC [Black, Indigenous, and other People of Color]).

RESULTS: Of 300 patients approached, 290 (97%) completed the survey and had recorded self-identified race. Respondents were 46% BIPOC, 24% Medicaid-insured, and 62% multiparous. Acceptability differed by vaccine type with 80% (n=230) of pregnant patients accepting influenza vaccination versus 42% (n=120) accepting COVID-19 vaccination. There was a racial disparity in vaccine acceptability; pregnant BIPOC patients were 80% less likely to accept influenza vaccination compared to white patients (62.4% vs 94.2%, aOR 0.17; 95%CI [0.07-0.39]) and more than 70% less likely to accept COVID-19 vaccination (22% vs 58%, aOR 0.27; 95% CI 0.15-0.46) after adjusting for differences in insurance status, parity, and body mass index. The most common reasons for vaccine hesitancy (Table) included fear of illness from the vaccine, fetal safety concerns, and concerns about safety regardless of pregnancy. Additionally, for the COVID-19 vaccine, there were concerns regarding rushed vaccine development.

CONCLUSION: There is a striking racial disparity in vaccine acceptance in pregnancy. Vaccine hesitancy is driven by perceptions of safety. Public health education campaigns should continue to promote evidence-based information about vaccines in pregnancy, particularly in BIPOC communities.

	White n=157 (54.1)	BIPOC n=133 (45.9)	P
Influenza vaccination			
Accepts vaccine	147 (94.2)	83 (62.4)	<0.001
What best describes any hesitancy you have about receiving the flu vaccine while pregnant?*			
<i>No hesitancy</i>	134 (85.4)	69 (51.9)	<0.001
<i>Fear of getting sick from the vaccine</i>	8 (5.1)	42 (31.6)	<0.001
<i>Concern about my safety</i>	6 (3.8)	16 (12.0)	0.009
<i>Concern about my baby's safety</i>	10 (6.4)	26 (19.6)	0.001
<i>Concern about safety regardless of pregnancy</i>	4 (2.6)	28 (21.1)	<0.001
<i>It doesn't work</i>	4 (2.6)	11 (8.3)	0.03

*participants could select more than one response

	White n=157 (54.1)	BIFOC n=133 (45.9)	P
COVID-19 vaccination			
Accepts vaccine	91 (58.3)	29 (22.0)	<0.001
What best describes any hesitancy you have about receiving the flu vaccine while pregnant?*			
<i>No hesitancy</i>	54 (34.4)	20 (15.0)	<0.001
<i>Not worried about getting sick from COVID-19</i>	2 (1.3)	8 (6.0)	0.03
<i>Vaccine development process was too rushed</i>	17 (10.8)	53 (39.9)	<0.001
<i>Fear of getting sick from the vaccine</i>	1 (0.6)	21 (15.8)	<0.001
<i>Concern about my safety</i>	14 (8.9)	54 (40.6)	<0.001
<i>Concern about my baby's safety</i>	21 (13.4)	47 (35.3)	<0.001
<i>Concern about safety regardless of pregnancy</i>	89 (56.7)	68 (51.1)	0.34
<i>It doesn't work</i>	16 (10.2)	54 (40.6)	<0.001

*participants could select more than one response

458 IUGR based on EFW <10th%ile vs. Small AC: Correlation with Placental Lesions of Malperfusion

Megan Savage¹, Stephen T. Chasen²

¹Weill Cornell, New York, NY, ²Weill Cornell Medical College, New York, NY

OBJECTIVE: The definition of IUGR now includes Abdominal Circumference (AC) below the 10th%ile with normal EFW, as well as EFW < 10th%ile. Our objective was to review placental pathology in the two cohorts to compare the frequency of lesions of malperfusion.

STUDY DESIGN: Retrospective cohort study comparing pregnancies diagnosed with IUGR from 2018-2020. Pregnancies with EFW< 10th%ile were characterized as "EFW" group, and those with normal EFW but AC< 10th%ile were characterized as "AC" group. Placental pathology was performed by perinatal pathologists who identified lesions of maternal and fetal malperfusion. Frequency of lesions were



compared in the cohorts. Mann-Whitney U and Fisher's Exact test were used for statistical comparison.

RESULTS: 318 pregnancies were included, with 250 and 68 in EFW and AC groups respectively. Median gestational age at delivery was 37 weeks [IQ Range 35-38]. Delivery was earlier in the EFW group, 37 [35-38] vs. 38 [36-39] weeks (p=.01), and placental weight was greater in the AC group, 340 [288-410] vs. 319 [268-377]g (p=.02). Lesions of maternal malperfusion were seen in 59.4% of pregnancies, with multiple lesions in 37.1%. Lesions of fetal malperfusion were seen in 18.2%, with multiple lesions in 8.2%. Diagnosis at < 32 weeks was associated with higher rates of maternal (75.5% vs. 51.4%; p< .001) and fetal (25.5% vs. 14.6%; p=.02) malperfusion. There were no differences in the rate of lesions of maternal or fetal malperfusion between the groups. After initial diagnosis, follow-up ultrasound was not consistent with IUGR in 11.0% of cases, and this was more common in the AC group (19.1% vs. 8.7%; p=.03). "Resolution" of IUGR was associated with lower rates of maternal malperfusion compared to persistent findings of IUGR (28.5% vs. 63.3%; p< .001).

CONCLUSION: There were no significant differences in rate of placental lesions of maternal or fetal malperfusion based on diagnostic criteria of IUGR. Diagnosis based on small AC was more likely to "resolve" on follow-up compared to diagnosis based on EFW < 10th%ile, and this was associated with lower rates of maternal malperfusion

Table 1. Diagnosis Criteria of IUGR and Placental Lesions of Malperfusion

	EFW <10 th %ile (n = 250) 37 [35-38]	AC <10 th %ile (n = 68) 38 [36-39]	p-value
Gestational age at Delivery (weeks)	37 [35-38]	38 [36-39]	.01
Placental Weight (grams)	319 [268-377]	340 [288-410]	.01
Placental Lesions of Maternal Malperfusion	61.6%	51.5%	.16
Multiple Lesions of Maternal Malperfusion	38.8%	30.9%	.26
Placental Lesions of Fetal Malperfusion	18.4%	17.6%	1.0
Multiple Lesions of Fetal Malperfusion	7.6%	10.3%	.46

459 Posttraumatic stress and prenatal care adequacy among Black/African American women

Elizabeth M. Waldron, Inger Burnett-Zeigler, Emily S. Miller

Northwestern University Feinberg School of Medicine, Chicago, IL

OBJECTIVE: Black/African American women with trauma histories experience a disproportionate burden of adverse perinatal outcomes. One mechanism for this association is inadequate prenatal care, as avoidant symptoms are a hallmark of posttraumatic stress disorder (PTSD). The objective of this study is to examine the association between PTSD symptoms and adequacy of prenatal care among Black/African American women.

STUDY DESIGN: This retrospective cohort study included all pregnant women who self-identified as Black/African American and were referred to a hospital's integrated mental health program between 2017-2021. All participants completed a PTSD Checklist -Civilian Version (PCL-C) as a part of an initial mental health evaluation. The EHR was reviewed to codify adequacy of prenatal care, which was assessed in three ways: late initiation of prenatal care (defined as gestational age at the first prenatal visit > 12 weeks), the ratio of no-show to attended prenatal visits, and the Adequacy of Prenatal Care Utilization (APNCU) Index. Bivariable analyses were performed. A propensity score for a positive PTSD screen was generated using

