Supplemental Material

Associations Among Endocannabinoids, Mental Health, and Obstetric Outcomes in a Pregnancy Cohort: A Preliminary Study

AEA congeners: PEA, SEA, OEA and LEA

There was no significant difference in AEA congeners between low and high depressive symptoms (p's>0.52). There was a significant positive association between maternal third trimester SEA concentrations and number of adverse obstetric outcomes (r=0.568, p=0.043). Adverse obstetric outcomes were not associated with placental SEA concentrations nor other AEA congener concentrations in placenta or serum (p's>0.08).

Associations Between Maternal Circulating Endocannabinoid Concentrations and Maternal Mental Depressive Symptoms

Based on circulating endocannabinoid concentrations in maternal serum in the third trimester, there was no significant difference between those with high and low depressive symptoms in the following: first trimester depressive symptoms and AEA concentrations (t(11)=0.311, p=0.762), first trimester depressive symptoms and 2-AG concentration (t(11)=0.934, p=0.370), second trimester depressive symptoms and AEA concentration (t(10)=0.175, p=0.864), third trimester depressive symptoms and AEA concentration (t(11)=-0.167, p=0.871), third trimester depressive symptoms and 2-AG concentration (t(11)=1.117, p=0.288), delivery depressive symptoms and AEA concentration (t(9)=-0.114, p=0.912), delivery depressive symptoms and 2-AG concentration (t(9)=0.397, p=0.701), postpartum depressive symptoms and AEA concentration (t(6)=-0.671, p=0.527) and postpartum depressive symptoms and 2-AG concentration (t(6)=1.033, p=0.341).

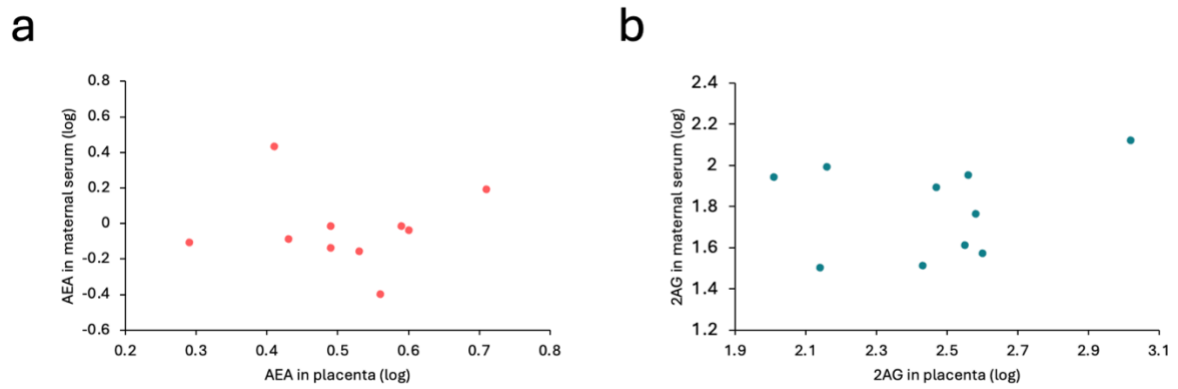


Figure S1. Non-significant associations between AEA (a) or 2-AG (b) concentrations in placental samples nor maternal serum.

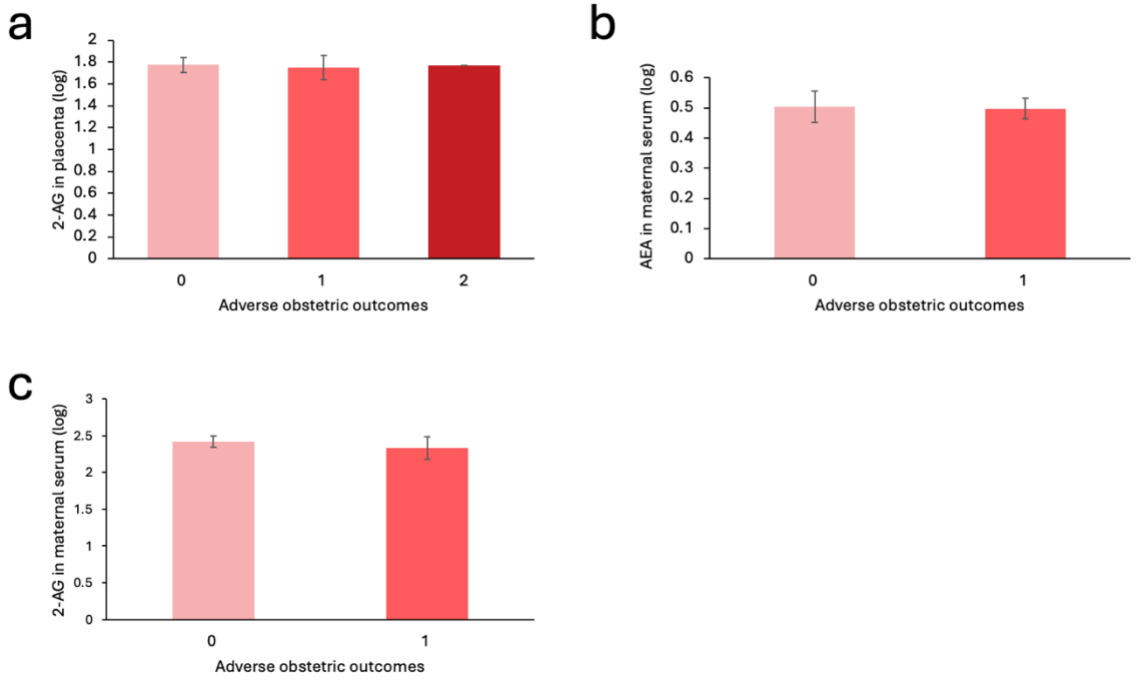


Figure S2. Associations between (a) placental 2-AG and adverse obstetric (OB) outcomes, (b) maternal circulating AEA and adverse OB outcomes, and (c) maternal circulating 2-AG and adverse OB outcomes. Of note, maternal serum was not collected on one pregnant person who had two OB outcomes (panel b and c). Error bars indicate standard error. Note only one participant had two adverse obstetric outcomes; thus, error bars are not indicated.

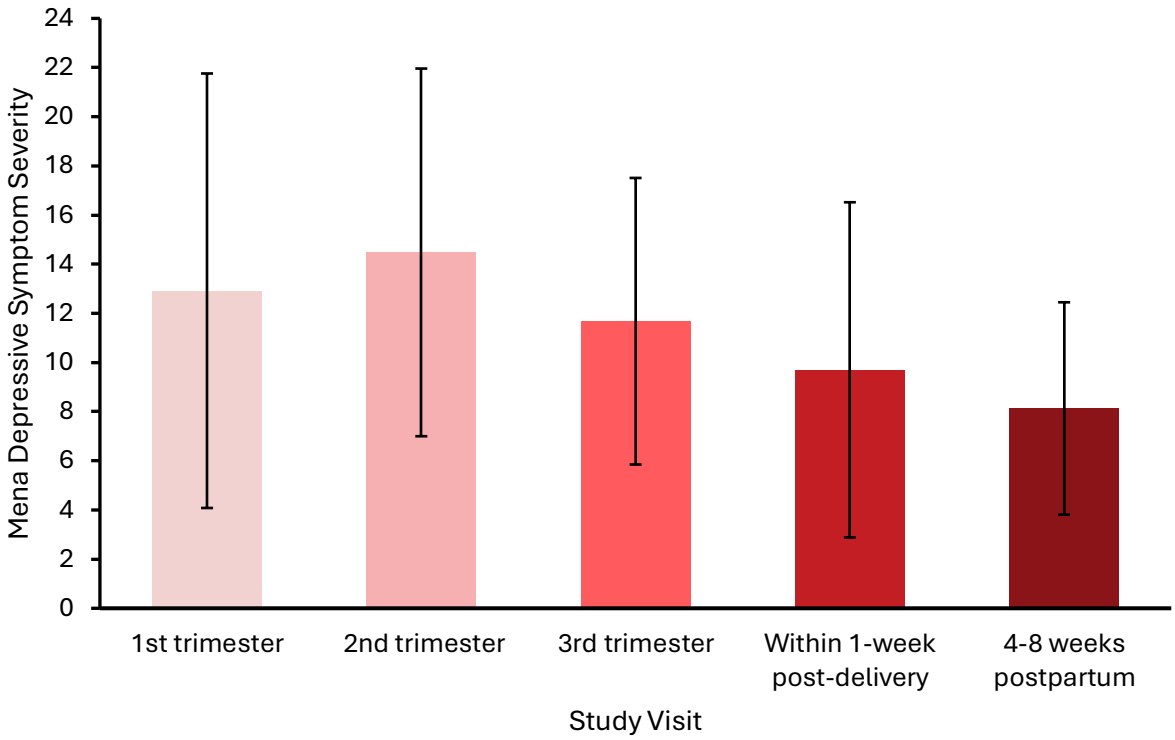


Figure S3. Mean depressive symptom severity score (CESD) for each of the five study visits. Error bars indicate standard error.

Table S1. Means (M) and standard deviation (SD) for endocannabinoid concentrations (without log transformation)

Variable	**M(SD)**
Maternal circulating AEA concentrations, 3rd trimester visit (pmol/ml)	3.27(0.83)
Maternal circulating 2-AG concentrations, 3rd trimester visit (pmol/ml)	300.98(253.03)
Placental AEA concentrations, delivery (pmol/ml)	1.48(0.85)
Placental 2-AG concentrations, delivery (pmol/ml)	68.24(37.62)