

The Effects of Marijuana Use During Pregnancy on Fetal Growth Outcome

Abstract:

Introduction: Marijuana has consistently been one of the most avidly used drugs in the world, and studies have previously been conducted studying fetal and early childhood development with respect to mothers that have used marijuana in pregnancy. The literature thus far has shown mixed conclusions with some indication of growth effects in certain studies and lack of effects in others. This study aimed to investigate fetal growth parameters and neonatal outcomes in babies born to mothers using marijuana during pregnancy, and ultimately to develop clinical care recommendations related to marijuana use during pregnancy. It was hypothesized that in utero growth would be diminished and that neonatal outcomes, such as oxygenation and neonatal intensive care admissions, would be worse in neonates whose mothers' used marijuana during their pregnancy.

Methods: Women with a positive urine drug screen for marijuana in pregnancy during even years between January 2012 and December 2018 were included. Women were excluded if they were <18 years old at conception, had multiple gestations, had no delivery data, or had no 16–23-week ultrasound data. Fetal ultrasound biometrics were noted if they were <10% for gestational age. A nuchal fold measurement ≥ 6 mm was considered abnormal. COMIRB approved study (IRB #: 19-1021)

Results: The analysis included 211 women. Most were non-Hispanic White (59%), nulliparous (40%), had public insurance (85%), and self-reported marijuana use in pregnancy (61%). The average maternal age at the time of delivery was 26 years ± 4.8 years. Few ultrasound parameters measured <10% for gestational age with the

following frequencies: biparietal diameter (27%), humerus length (19%), head circumference (5%), femur length, and abdominal circumference (3%). 4% had NSF ≥ 6 mm. The median gestational age at delivery was 38 weeks 6 days ± 3 weeks 6 days. The median birth weight was 2890 grams ± 768 . Among neonates, 22% required oxygen, and 25% were admitted to the NICU. Of the neonates tested for illicit substances, 67% were positive for marijuana.

Conclusion: Marijuana use in pregnancy does not appear to affect second-trimester biometric parameters but may affect neonatal outcomes. The selection of matched controls is planned to further investigate these findings.