

Preconception Marijuana Use and Pregnancy Outcomes (P18-033-19)

Sunni Mumford,¹ Kerry Flannagan,¹ Jeannie Radoc,¹ Torie Plowden,¹ Keewan Kim,¹ Alexandra Purdue-Smithe,¹ Jessica Zolton,¹ Lindsey Sjaarda,¹ Neil Perkins,¹ Joshua Freeman,¹ Zeina Alkhalaf,¹ Victoria Andriessen,¹ Robert Silver,² and Enrique Schisterman¹

¹NICHD and ²University of Utah

Objectives: Marijuana is the most widely used and fastest growing drug in the United States, with legislation currently broadening legalization for both medical and recreational use. However, there are limited data evaluating associations with fecundity and adverse pregnancy outcomes. A few studies evaluating self-reported use suggest marijuana may not be harmful for pregnancy, yet there is a concern for underreporting due to stigma as marijuana is not universally legalized. Our aim was to examine the association between preconception marijuana use, using both self-reported and urinary levels of tetrahydrocannabinol (THC), and fecundability, live birth, and pregnancy loss.

Methods: Women aged 18–40 years old ($n = 1212$) enrolled in the EAGeR trial were screened for urinary THC at up to 2 time points during preconception using a homogenous enzyme immunoassay from Randox Laboratories, and asked at baseline to report any marijuana use

during the past year. Women were followed for up to 6 months while attempting pregnancy. Cox proportional hazard regression was used to calculate fecundability odds ratios (FOR), and log-binomial regression to estimate risk ratios (RR) for live birth and pregnancy loss adjusting for age, race, BMI, education, smoking, alcohol, and detectable levels of opioids.

Results: 33 (2.7%) women screened positive for THC during the preconception period, of which 14 also self-reported use during the past year. 62 women (5.1%) either screened positive or self-reported use. Women who screened positive for preconception THC had reduced fecundability (FOR 0.50; 95% CI 0.25, 1.00), as well as women who self-reported marijuana use (FOR 0.54; 95% CI 0.31, 0.94), or who were positive using either urinary or self-report (FOR 0.53, 95% CI 0.33, 0.86). No associations were observed between marijuana use and live birth (RR 0.71; 95% CI 0.41, 1.22) and pregnancy loss (RR 0.78; 95% CI 0.28, 2.18).

Conclusions: Women who screened positive for THC during preconception, or self-reported use during the past year had reduced fecundability, though no associations were observed with live birth or pregnancy loss. Further investigations are needed to determine what duration and dose of marijuana may negatively impact fecundability.

Funding Sources: Intramural Research Program, Division of Intramural Population Health Research, Eunice Kennedy Shriver National Institute of Child Health and Human Development.