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Trends in Cannabis and Tobacco use Among Pregnant Women During the COVID-19 Pandemic

Fiona E. Wohrer

University of New Mexico Health Sciences Center, fewohrer@salud.unm.edu

Jared DiDomenico

University of New Mexico Health Sciences Center

Jonathan Valdez

University of New Mexico Health Sciences Center

Sonia Macias Rodriguez

University of New Mexico Health Sciences Center

Andrea Sanchez-Guardado

University of New Mexico Health Sciences Center

See next page for additional authors

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Authors

Fiona E. Wohrer, Jared DiDomenico, Jonathan Valdez, Sonia Macias Rodriguez, Andrea Sanchez-Guardado, and Ludmila N. Bakhireva

TRENDS IN CANNABIS AND TOBACCO USE AMONG PREGNANT WOMEN DURING THE COVID-19 PANDEMIC

F. Wohrer, J. DiDomenico, J. Valdez, SM Rodriguez, A. Sanchez-Guardado, LN Bakhireva
University of New Mexico Health Sciences Center

BACKGROUND

- Substance use during pregnancy in 2017:
 - Combustible tobacco: 9.2% (PRAMS)
 - Cannabis: 7.0% (Ko et al., 2020)
- Prenatal cigarette smoking poses risks to maternal and fetal health including subfertility, low birth weight and preterm labor (ACOG)
- Data regarding associations between cannabis use and poor pregnancy outcomes are conflicting (ACOG)
- American College of Obstetricians and Gynecologists (ACOG) advises that cannabis should be avoided in pregnancy
- From 2002 to 2016, prenatal cannabis use rose from 3.4% to 7.0%, meanwhile, prenatal cigarette smoking decreased (Agrawal et al., 2019)
- 1% growth in cigarette sales during the first 10 months of 2020 despite annual declines since 2015 (Jaklevic, 2021)
- Significant increase in the prevalence of maternal mental health issues were recorded after the onset of the pandemic (Kotlar et al., 2021)
- Depression and anxiety have been associated with both tobacco and cannabis use during pregnancy (Young-Wolff et al., 2020)

OBJECTIVES

- In a prospective cohort study characterize:
- The prevalence of tobacco and cannabis use in pregnant women from the time of last menstrual period(LMP) to the time of delivery
 - Changes in trends of prenatal substance use after the onset of the COVID-19 pandemic

METHODS

Data Source

- Prospective cohort "ENRICH-2: Stress-Reactivity and Self-Regulation in Infants with PAE"
- Patients were recruited during a prenatal care visit in early second trimester and administered first interview (V1)
- Follow-up interviews:
 - Third trimester (V2)
 - Hospital stay for labor and delivery (V3)
- N=184 total subjects
- Subjects were classified into study years (2019-2022) based on their estimated date of delivery (EDD)

METHODS Cont.

Assessment of Tobacco Use

- Participants were asked to self-report tobacco in the following interview questions:
V1: Do you currently smoke regular cigarettes or use tobacco? [Y/N] If No
 ↪ When did you stop smoking?
- Reported dates of cessation were compared with the date of LMP to account for use in early pregnancy
V2, V3: How many cigarettes per day are you smoking now?
 Do you use a "vape" or e-cigarette to consume nicotine?

Assessment of Cannabis Use

- Questionnaire was based on the 2011 National Survey on Drug Use and Health, which captures timing and frequency of drug use (no use, occasional, once a month, every 2-3 weeks, weekly, or daily/almost daily) and included the following:
V1: Since your last menstrual period, that is since [date.], how often did you use Marijuana with or without a prescription?
V2, V3: Between your last interview and today, that is since [date.] and [date.], have you used Marijuana with or without a prescription?

RESULTS

Table 1. Demographic Characteristics of Study Cohort (n = 184)

Characteristics	N = 184
Age (Mean ± SD)	29.6 ± 5.6
Race/Ethnicity:	
White	123 (66.8%)
Black or African American	8 (4.3%)
American Indian or Alaskan Native	13 (7%)
Other	40 (21.9%)

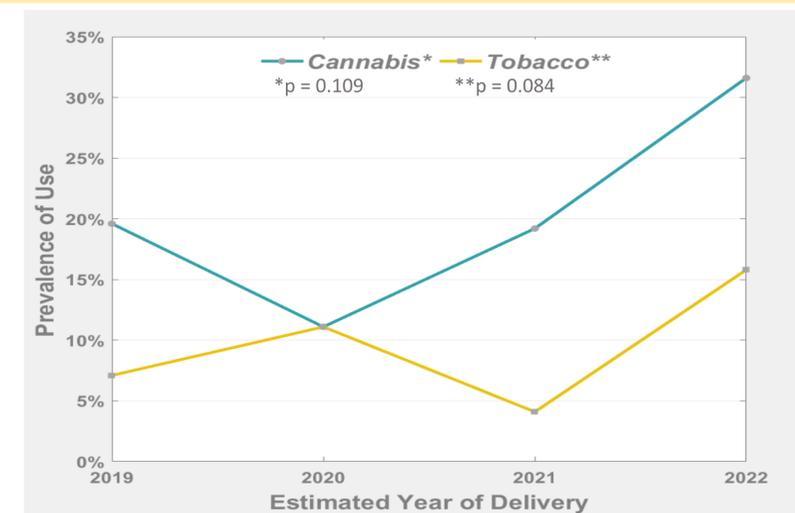
Table 2. Proportion of Subjects Reporting Frequent¹ Cannabis Use During Pregnancy

Variable	2019 N = 56	2020 N = 36	2021 N = 73	2022 N = 19
Any Cannabis Use*	11 (19.6%)	4 (11.1%)	14 (19.2%)	6 (31.6%)
Frequent ¹ Cannabis Use**	9 [81.8%]	1 [25%]	10 [71.4%]	5 [83.3%]

¹Frequent use is defined as survey responses of either weekly or daily/almost daily use, and is displayed as a percentage of those reporting any cannabis use during pregnancy
 **p=0.0081

RESULTS Cont.

Figure 1. Prevalence of Self-reported Tobacco and Cannabis Use Among Pregnant Women



DISCUSSION

- Self-reported prenatal tobacco and cannabis use demonstrate an upward trend between 2019 and 2022
- Across all study years, of participants who reported any cannabis use during pregnancy, 71.4% reported frequent use

Limitations

- Number of interviews completed may vary among subjects
- Limited data points due to ongoing nature of this study

Strengths

- Multiple interviews conducted throughout pregnancy in a non-stigmatizing manner
- Ongoing prospective cohort recording substance use prior to birth outcome
- Study cohort representative of general obstetric population at UNMH

Future directions

- Assess rates of prenatal substance use as epidemiological status of COVID-19 improves
- Investigate trends in cannabis use in the context of marijuana legalization policies
- Evaluate associations between maternal substance use, perceived stress/mental-health status and postnatal outcomes

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- Address inquiries to fewohrer@salud.unm.edu