Nevada PRAMS Data to Action

Adverse Childhood Experiences Predict Marijuana Use in Pregnant Women

Abstract

Chronic exposure to adverse childhood experiences (ACEs) was found to be a strong correlate of marijuana use when analyzing Nevada PRAMS data. Marijuana use during pregnancy can be associated with poor birth outcomes. The finding that ACEs can predict marijuana use during pregnancy is novel and can be used to elicit new strategies to prevent substance use in pregnant women. These data were presented at the 2021 Nevada Public Health Cannabis and Vaping Summit and was then utilized in developing at statewide Cannabis and Vaping Action Plan. Different goals using PRAMS data include continuing surveillance to collect cannabis and pregnancy data and monitor trends over time, develop messaging to pregnant women with a focus on women with high ACE scores, and use PRAMS data to highlight the utility of Screening, Brief Intervention and Referral to Treatment (SBIRT) implementation.

The Nevada Opioid Use Disorder, Maternal Outcomes, and Neonatal Abstinence Syndrome Initiative (OMNI) and Promoting Innovation in State/Territorial Maternal and Child Health Policymaking (PRISM) learning communities will utilize PRAMS data in their efforts to improve outreach, identification, engagement, treatment, recovery and support for pregnant/postpartum women and non-pregnant women of childbearing age, and their future and current infants, who are impacted by substance use using evidence-based interventions. This information will supplement provider guides, educational materials, and OMNI and PRISM Action Plan implementation efforts.

Problem Overview

Research has shown marijuana is the most commonly used illicit substance during pregnancy (McCabe & Arndt, 2012), and this use has been associated with preterm labor, low birth weight, neonatal ICU admissions, and stillbirth (Verner et al., 2014; Hayatbakhsh et al., 2013; Burns et al., 2006). Adverse childhood experiences (ACEs), including child abuse, neglect, and various forms of household challenges such as substance use by a household member or divorce, have been found to have a graded, dose-response impact on multiple health and well-being outcomes (Felitti et al, 1998; Merrick & Guinn, 2018). One association that has been found is that between ACEs and substance use during pregnancy, specifically alcohol and tobacco (Frankenberger, Clements-Nolle, Yang, 2015; Chung, et al., 2010).

Pregnancy Risk Assessment Monitoring System (PRAMS) data from Nevada was utilized to explore if cumulative ACEs exposure is associated with marijuana use during pregnancy. In 2018, self-reported marijuana use during pregnancy in Nevada was 11.6%. Pregnant women with a singlet birth who used marijuana during their most recent pregnancy were more likely to be between the ages of 25 and 34, white, and have a high school degree as their highest level of educational attainment. Furthermore, they were more likely to be unmarried with a lower family income than women who did

not use marijuana during pregnancy. While noting these demographics is useful, understanding factors that influence use of marijuana during pregnancy is also important for prevention efforts.

Using 2017 and 2018 Nevada PRAMS data, weighted logistic regression analyses were used to assess the association between Adverse Childhood Experiences (ACEs) and marijuana use during pregnancy, adjusting for the effects of demographic characteristics such as age, race/ethnicity, education, marital status, and income. Chronic exposure to ACES was found to be a strong correlate of marijuana use during pregnancy.

PRAMS Data Used

2017 (partial year) and 2018 PRAMS data
- State-added questions to generate eight measures of childhood, physical, emotional, and sexual abuse, and household dysfunction.
- Marijuana use during pregnancy
- Questions include data on mental illness in the household, substance abuse in the household, incarcerated household member, parental separation or divorce; witness of domestic violence, physical abuse, emotional abuse, sexual abuse.

Collaborators

Nevada PRAMS staff are with the Nevada Division of Public and Behavioral Health. Shawn Thomas, MPH analyzed ACEs and marijuana PRAMS data with help from UNR staff. Wei Yang, PhD, MD, presented the PRAMS data analysis at the 2021 Nevada Public Health Cannabis and Vaping Summit, and participated in the development of the Action Plan for Cannabis and Vaping prevention.

University of Nevada, Reno (UNR) staff:

- Shawn Thomas, MPH - Opioid Epidemiologist and Surveillance Coordinator
- Wei Yang, PhD, MD – Nevada PRAMS Project Director

Division of Public and Behavioral Health (DPBH) staff:

- Vickie Ives, MA – Maternal, Child and Adolescent Health Section Manager
- Tami Conn – Nevada PRAMS Manager
- Kagan Griffin, MPH, RD – Nevada PRAMS Lead Program Coordinator
- Lawanda Jones – Nevada PRAMS Program Coordinator

Opioid Use Disorder, Maternal Outcomes, and Neonatal Abstinence Syndrome Initiative (OMNI) Learning Community and Promoting Innovation in State/Territorial Maternal and Child Health Policymaking (PRISM) Learning Community:

- Dr. Stephanie Woodard, DHHS Senior Policy Advisor on Behavioral Health
- Cody Phinney, Division of Health Care Financing and Policy (DHCFP)
- Dr. Farzad Kamyar
- Brook Adie and Kim Riggs, DPBH
- Beverly Brown, Division of Child and Family Services (DCFS)
- Nancy Bowen, Primary Care Association

- Vickie Ives, MA, DPBH

Data to Action Narrative

Nevada PRAMS data on the association between Adverse Childhood Experiences (ACEs) and marijuana use during pregnancy were compiled and presented in January 2021 at the Nevada Public Health Cannabis and Vaping Summit. The Nevada Department of Health and Human Services (DHHS) and Division of Public and Behavioral Health (DPBH) in partnership with the Nevada Attorney General's Office hosted the 3-day virtual summit to identify Nevada's priorities and strategies related to legal adult use, public safety, regulation, prevention, treatment, and oversight of cannabis and vaping products.

The PRAMS findings support substance use prevention programs that provide wraparound support services and are accessible to women with high ACE scores. Women with substance use concerns who are pregnant and/or parenting can encounter barriers when seeking help and treatment, and as the PRAMS data illustrates, are also more likely to have a lower family income as well as a history of trauma. Therefore, wraparound support services that offer basic needs and social supports along with perinatal, primary, mental health care, and substance use services can be particularly helpful for this demographic who might have difficulty accessing formal systems of care. Furthermore, wraparound support services often incorporate non-judgmental, relationship-based, trauma-informed, and harm reduction approaches that can be particularly effective for women with high ACE scores (Rutman, et al 2020).

This information was utilized by Nevada Cannabis and Vaping Summit attendees during Action Planning workshops held at the conclusion of the conference, specifically in the action planning breakout for Cannabis and Special Populations. This Action Plan is described as a "menu" of strategies policy makers, the state, local coalitions, and other key stakeholders can draw from in taking action related to public health promotion. PRAMS data were utilized heavily in the creation of this Action Plan.

The first point in the Action Plan is focused on prioritizing and investing in surveillance, epidemiology, and research, and specifically highlights the need to "Collect and examine cannabis use data by opting into specific questions related to cannabis in the Pregnancy Risk Assessment Monitoring System (PRAMS)." The group will ask the program to continue asking marijuana use during pregnancy questions.

The second point of the Action Plan that pertains to PRAMS is to create specific messaging that targets pregnant women, as a unique population, regarding marijuana use during pregnancy. PRAMS staff hope to connect with partners to create messaging utilizing PRAMS data, with a focus on ensuring messaging reaches women with high ACE scores.

Finally, the last point related to pregnant women from the action plan highlights the need to focus prevention efforts toward all women of reproductive age. One suggested way to do this is to implement universal questionnaire-based screening (Screening, Brief Intervention, and Referral to Treatment – SBIRT) in a non-punitive manner to identify substance use in pregnant and non-pregnant patients of reproductive age.

Timeline:

- 2017 and 2018: PRAMS data collection
- 2020: Data analyses conducted on PRAMS data to examine ACEs and marijuana use during pregnancy.

- January 2021: Presentation given at Cannabis and Vaping Summit and Action Planning sessions conducted.
- March 2021: Nevada Public Health Cannabis and Vaping Summit Action Plan published

<u>Outcomes and Impact:</u>

Short Term Outcomes:

These data were shared as a presentation at the October 2020 American Public Health Association (APHA) annual conference. The presentation can be viewed at this link: https://apha.confex.com/apha/2020/meetingapp.cgi/Paper/471739.   Nevada Cannabis and Vaping Summit in January 2021. These findings were presented at the Summit. This Summit had a diverse audience of public health professionals, policy makers, medical professionals, emergency medical services (EMS), fire department and police, etc. The goal of this Summit was to create a statewide action plan to address cannabis use. PRAMS data were used to support the statewide cannabis action plan for pregnant and breastfeeding people.

PRAMS data on the impact of ACEs on cannabis use during pregnancy will be presented this year to the Opioid Use Disorder, Maternal Outcomes, and Neonatal Abstinence Syndrome Initiative (OMNI) and Promoting Innovation in State/Territorial Maternal and Child Health Policymaking (PRISM) learning communities. These data will be utilized to develop educational materials and supplement inpatient and outpatient provider treatment guides.

Intermediate Outcomes:

The inclusion of PRAMS surveillance in the Nevada Cannabis and Vaping Summit Action Plan will ensure data are utilized to develop targeted messaging campaigns to reduce cannabis use during pregnancy. Policies regarding expanding OMNI and PRISM Action Plan goals and maternal mental health policy will be informed by PRAMS data. Inpatient and outpatient provider treatment guides for substance use and pregnancy created by OMNI will be paired with supplemental PRAMS data.

Long-Term Outcomes:

While long-term outcomes have not yet been observed, Nevada PRAMS will monitor changes in substance use behavior during pregnancy as suggested in the Cannabis and Vaping Action Plan. Utilizing the specific performance and objective measures implemented in the Action Plan, Nevada will be able to compare trends over time to quantify reductions in substance use during pregnancy. Evaluation will be done in the form of surveys to quantify the reach of messaging campaigns, to ensure delivery to women with high ACE scores.

References

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