



Tracking Maternal Marijuana Use in Alaska 1990-2016 and Three-Year Follow-up Findings

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BACKGROUND

Alaska's culture has long embraced a history with marijuana use. Recreational marijuana use was legalized starting in 2015. The Alaska Pregnancy Risk Assessment Monitoring System (PRAMS) has collected data on maternal marijuana use since 1990. Its three-year follow-up Childhood Understanding Behaviors Survey (CUBS) began with 2005 births and started collecting data on maternal marijuana use in 2015.

STUDY QUESTIONS

1. How do questionnaire wording and legislation affect trends in maternal marijuana use in Alaska?
2. Is maternal marijuana use associated with use of developmental delay-based services by the three-year-old child?

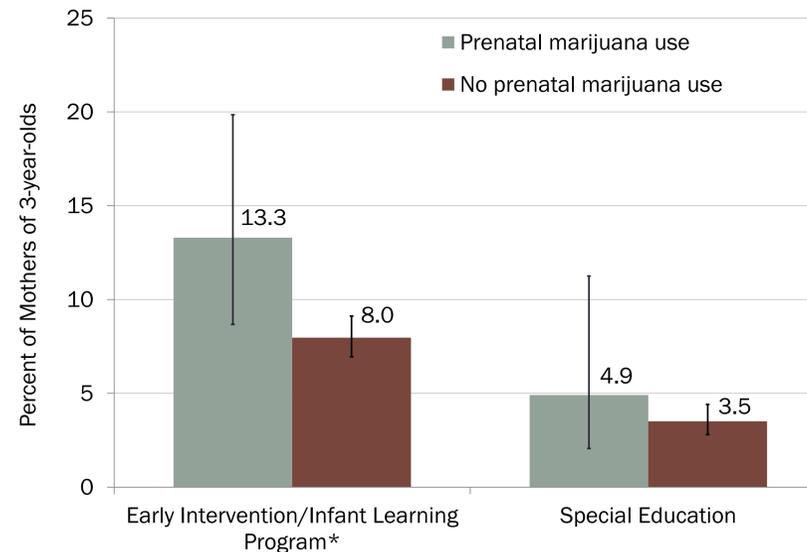
METHODS

We looked at the trend of maternal marijuana use across all 27 years of Alaska PRAMS data in conjunction with question and statewide legislative changes. During the nearly 30 year period, the prenatal marijuana question was asked in four different ways, changing in 1996, 2000, and 2016. Trends were examined between the passing of punitive legislation (in 1990 and 2006) and incremental legalization of marijuana (in 1998 and 2015). We examined the trend by maternal race and age (latter not shown here). PRAMS data for birth years 2005-2013 were linked to CUBS data collected 2008-2016. CUBS provided data on the child's enrollment in developmental delay services (data collection was limited to 2008-2014) and mother's marijuana use since PRAMS. Cross-tabulations were done on linked data; numbers were too small for adjusted analysis.

RESULTS: THREE-YEAR FOLLOW-UP

Developmental Delay-based Services Enrollment of 3-year-old by Mother's Prenatal Marijuana Use, 2008-2014

Data Source: CUBS, Alaska Division of Public Health



Mother's Marijuana Use Three Years Later, Alaska, 2015-2016 (first two years post-legalization)

Data Source: CUBS, Alaska Division of Public Health

- 12.2% of mothers of (now) 3-year-olds reported using marijuana in the past 2 years.
- 8.0% used marijuana during the past 30 days.
- 47.8% of mothers of (now) 3-year-olds who used marijuana prenatally reported use in the past 30 days.

RESULTS: TRENDS

The overall, nearly 30 year (1990-2016), trend of prenatal marijuana use in Alaska is increasing (p value = 0.001). The longest timeframe of 2000-2015 (16 years) using the same question showed a significant increasing trend with or without including the first year of legalized use (p value < 0.001, range 3.5% to 7.8%); most pronounced was the increasing trend among Alaska Native women (p value < 0.001, range 6.4% to 13.7%). Trend analysis between legislative changes showed that criminalization of marijuana in 1990 was followed by significant declines in Alaska Native women's use (p value = 0.032), though not for White women. The trend overall and for White women after the legalization of medical marijuana in 1998 was not significant, though for Alaska Native women, an increasing trend neared significance (p value = 0.067). There were no significant trends following more recent legislation in 2006 that made 1-4 oz of marijuana in possession a misdemeanor. In the latest year available since recreational use of marijuana was legalized in Alaska (2016), the prevalence of prenatal use among Alaska Native women increased compared with the prior year, while that of White women decreased.

PUBLIC HEALTH IMPLICATIONS

Prenatal marijuana use in Alaska was above 7% in 2016. Although prior legislation, of approximately 8 years-length between changes, appears to have only had minimal effects on overall use, it remains to be seen whether recreational legalization starting in 2015 will have a longer impact. There is some research showing the effects of prenatal use on a child's development (beyond what we could demonstrate with CUBS), however, the body of evidence is not large. Public health agencies should continue to monitor this trend and be aware of potential impacts on young children.

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PRENATAL MARIJUANA USE BY MATERNAL RACE, ALASKA, 1990-2016

DATA SOURCE: PRAMS, ALASKA DIVISION OF PUBLIC HEALTH

