

## **The effects of prenatal marijuana use on child development: What do we know and how do we know it?**

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PRESENTATION FORMAT: Oral Presentation

TOPIC/TARGET AUDIENCE: State and local public health professionals and public health students

### **ABSTRACT:**

Recent state-based legalizations of marijuana have raised the question of whether the use of marijuana by pregnant women has long-term effects on the development of exposed children. This presentation will explore what we know and what further research is needed to understand what advice providers should give to women regarding their prenatal use of marijuana. Much of the scientific research on the effect of prenatal marijuana on children comes from seven observational studies. Two of the studies followed the children for 20 years and produced many publications. The other five studies produced one publication each. Most of the studies were an attempt to explore the effects of cocaine on child development and enrolled women who used a variety of substances (including cocaine, tobacco, alcohol and marijuana) during pregnancy. There are five potential sources of bias in the publications from these studies: selection of controls; studying multi-drug-using women; multiple comparisons; publication bias; and the mental health of the marijuana-using pregnant women. Conclusions: All of the studies contained serious methodologic flaws. One of the long-term studies seems to provide the most substantial findings because it used high-risk population controls. They found that prenatal marijuana exposure was associated with decreased intellectual development among 6 year olds and increased depressive symptoms among 10 year olds. There is a need for additional research: to find methods to control for the mental health of the marijuana-using women; and to seek to repeat these studies using optimal methodology.

### **OBJECTIVE(S):**

- Summarize what is known and what is not known about the effects of prenatal marijuana use on child development
- Discuss the role of various types of control groups on interpretation of published studies about the effects of prenatal marijuana use on child development
- Discuss the role of multiple comparisons and publication bias in interpretation of published studies about the effects of prenatal marijuana use on child development

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