

Smoking Pot May Double Risk for Stillbirth

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Cannabis, smoking, illicit drug use, and secondhand smoke exposure are **linked to increased risk for stillbirth**, according to a new study published in the January 2014 issue of *Obstetrics and Gynecology*.

"Documentation of **tetrahydrocannabinolic** acid indicating cannabis use **increased the odds of stillbirth twofold**," the authors write.

They also emphasize that secondhand smoke alone also almost doubled the odds of stillbirth.

Cannabis is the most commonly used illicit drug in the United States, and its use has risen in recent years as a result of trends in legalization, according to Michael W. Varner, MD, from the University of Utah School of Medicine, Salt Lake City, and colleagues in the Eunice K. Shriver National Institute of Child Health and Human Development Stillbirth Collaborative Research Network.

Therefore, the investigators examined possible associations among illicit drug use, cannabis, and smoking and stillbirth, using a case-control design.

From March 2006 to September 2008, participants were enlisted from 5 geographically diverse areas.

Blood samples were collected from the mother and from umbilical cord, placental, or fetal tissues from more than 90% of deliveries at the study sites.

Laboratory workers blinded to clinical outcomes processed the blood samples.

They tested fetal blood for amphetamine, methamphetamine, cocaine, pethidine, meperidine, hydrocodone, and cannabis.

Maternal blood was analyzed for cotinine (a nicotine metabolite).

Fetal post mortems and placental pathology examinations were also performed. Drug use and smoking history were based on maternal self-report.

There were 663 stillbirths (cases) enrolled into the study, of which 63% (418) had fetal toxicology screens and 87% (579) had maternal cotinine assays.

Of 1932 live births (controls), 54% (1050) had fetal toxicology screens and 80% (1545) had maternal cotinine assays.

Odds of stillbirth were nearly 2 times higher among women whose **fetuses tested positive for any drug metabolite** (case patients, **7.0%**; control patients, **3.7%**; odds ratio [OR], 1.94; **95%** confidence interval [CI], 1.16 - 3.27).

The most common illicit drug was cannabis, which increased the odds of stillbirth by more than twice as much (case patients, **3.9%**; control patients, **1.7%**; OR, 2.34; **95% CI**, 1.13 - 4.81).

These results may have been confounded by cotinine, the authors admit, as smoking tobacco is common among cannabis users.

There was a dose–response relationship between maternal smoking and stillbirth, with odds of stillbirth increasing with higher maternal cotinine levels.

Exposure to secondhand smoke (lack of maternal smoking history along with cotinine levels less than 3 ng/mL) increased the odds of stillbirth by twice as much (case patients, **5.0%**; control patients, **2.7%**; OR, 2.06; **95% CI**, 1.24 - 3.41).

Limitations include a possible bias resulting from differences in race, ethnicity, and gestational age between participants and those who declined to participate.

Bias could also have resulted from the usual decline in drug use near the end of pregnancy.

Finally, the number of women who tested positive for an individual drug was relatively small, which could have made definitive conclusions problematic.

"Smoking and illicit drugs continue to be common and important modifiable risk factors for stillbirth," the authors emphasize. "Clinicians should be alert to these risks and should educate women regarding dangers associated with **marijuana use and passive smoke exposure during pregnancy.**"

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