

Study finds prenatal marijuana use can affect infant size, behavior

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Smoking during pregnancy has well-documented negative effects on birth weight in infants and is linked to several childhood health problems. Now, researchers at the University at Buffalo Research

Institute on Addictions have found that prenatal marijuana use also can have consequences on infants' weight and can influence behavior problems, especially when combined with tobacco use.

"Nearly 30 percent of women who smoke cigarettes during pregnancy also report using marijuana," says Rina Das Eiden, Ph.D., RIA senior research scientist. "That number is likely to increase with many states moving toward marijuana legalization, so it's imperative we know what effects prenatal marijuana use may have on [infants](#)."

Through a grant from the National Institute on Drug Abuse, Eiden studied nearly 250 infants and their mothers. Of these, 173 of the infants had been exposed to [tobacco](#) and/or marijuana during their mothers' pregnancies. None were exposed to significant amounts of alcohol.

Eiden found that infants who had been exposed to both tobacco and marijuana, especially into the third trimester, were smaller in length, [weight](#) and head size, and were more likely to be born earlier, compared to babies who were not exposed to anything. They also were more likely to be smaller in length and weight compared to babies exposed only to tobacco in the third trimester. The results were stronger for boys compared to girls.

"We also found that lower [birth weight](#) and size predicted a baby's behavior in later infancy," Eiden says. "Babies who were smaller were reported by their mothers to be more irritable, more easily frustrated and had greater difficulty calming themselves when frustrated. Thus, there was an indirect association between co-exposure to tobacco and marijuana and infant behavior via poor growth at delivery."

Furthermore, women who showed symptoms of anger, hostility and aggression reported more stress in pregnancy and were more likely to continue using tobacco and marijuana throughout [pregnancy](#). Therefore,

due to the co-exposure, they were more likely to give birth to infants smaller in size and who were more irritable and easily frustrated. The infants' irritability and frustration is also linked to mothers who experienced higher levels of stress while pregnant.

"Our results suggest that interventions with women who smoke cigarettes or use [marijuana](#) while pregnant should also focus on reducing stress and helping them cope with negative emotions," Eiden says. "This may help reduce prenatal substance exposure and subsequent [behavior problems](#) in infants."

The study appeared in the March/April issue of *Child Development*.

Provided by University at Buffalo

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