Marijuana May Negatively Affect Women's Fertility

Eggs exposed to THC are less likely to survive the first week of development, according to an animal study.

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Currently, doctors advise women seeking fertility treatments to avoid cannabis. Now, findings from an animal study show that tetrahydrocannabinol (THC), the psychoactive ingredient in weed, can damage eggs, or oocytes, and jeopardize a pregnancy. The study is set to be published in the Journal of the Endocrine Society, according to a press release from the international medical organization.

For the inquiry, researchers at the University of Guelph in Canada treated cow eggs with concentrations of THC equivalent to therapeutic and recreational doses. Next, the scientists collected and cultivated these oocytes and divided them into five groups: untreated, control, low THC, mid THC and high THC.

In addition, researchers measured the eggs' developmental rates and gene expression and evaluated the ability of embryos to reach critical developmental stages at specific time point. The results showed that eggs with higher concentrations of THC exhibited a significant decrease and delay in their ability to reach those milestones.

Exposure to THC also caused a substantial decrease in the expression of genes called connexins, which are present at increased levels in higher-quality oocytes. (Inferior oocytes that express lower levels of connexin may lead to substandard embryo development.)

"This embryo would be less likely to proceed past the first week of development and thus lead to infertility," explained Megan Misner, a graduate student involved in the study,

Findings also showed that THC adversely affected the activity of 62 genes in the groups that underwent treatment compared with those that weren't treated, which implies that lower quality and lower fertilization capability reduces fertility, Misner said.

Ultimately, these findings may help doctors advise patients undergoing in vitro fertilization. Additionally, women of reproductive age, who commonly use marijuana for recreational purposes, may wish to evaluate their drug use prior to trying to get pregnant.

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