

# Feelings for fetus may vary smoking amount

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A small new study suggests that pregnant smokers with low scores on a scale that rates emotional attachment to their fetuses may be inclined to smoke more than pregnant smokers who feel more attached to their future babies.

"It would make sense psychologically that women who feel less attached to their fetus are going to smoke more, because they aren't necessarily thinking about the repercussions," said Dr. Susanna Magee, lead author of the study published online July 28 in the *Maternal and Child Health Journal*. Magee is an assistant professor of family medicine in The Warren Alpert Medical School of Brown University.

Magee has seen evidence of that in her 12 years of clinical practice with moms-to-be as a physician at Memorial Hospital in Pawtucket, R.I. She and co-author Laura Stroud, a research associate professor of psychiatry and human behavior in the Alpert Medical School based at The Miriam Hospital, decided to study it more rigorously in a subpopulation of women participating in the Behavior and Mood in Babies and Mothers (BAM BAM) study at local hospitals.

The BAM BAM study tracks [smoking during pregnancy](#). Subjects participate in the Timeline Follow Back interview where they are asked to recall their weekly smoking history during pregnancy. The researchers also measured participants' saliva levels of the chemical cotinine, a metabolic byproduct of nicotine use that varies with the amount a person has smoked in the last day or so. The researchers sampled cotinine at weeks 30 and 35 of pregnancy and on the day after delivery.

For this study, the researchers also asked 58 pregnant smokers to answer the 24 questions of the Maternal-Fetal Attachment Scale (MFAS) at weeks 30 and 35 of gestation. The scale provides a standardized assessment of each woman's feelings about her fetus.

For analysis, Magee then divided the women into two groups of 30 and 28 based on their MFAS scores.

Women in the lower attachment group had significantly higher levels of cotinine—an indicator that they smoked more—at week 30 and on the day after delivery. (At week 35 their levels were also comparatively high, but not to a statistically significant degree.)

In another result that was suggestive but fell just short of statistical significance, women in the lower attachment group also reported smoking a higher maximum number of cigarettes per day.

Magee said that while the study should be repeated with a larger sample, it fits within a narrative emerging in the literature that has documented associations between fetal attachment and maternal behavior during pregnancy. There are at least two previous studies, for example, in which researchers found that women who felt less attachment to their fetuses were more likely to smoke at all during pregnancy.

Stroud agreed that the study highlights the importance of assessing maternal-fetal attachment.

"This study is building a case that maternal-fetal attachment, while it may be a more warm and fuzzy concept, actually has cold hard implications for health outcomes," Stroud said.

In particular this new study is the first, Magee said, to present statistically significant evidence that low attachment may be associated

with smoking more among [pregnant smokers](#). It therefore adds support for the hypothesis that finding ways to improve a mother's feelings of attachment for her fetus may help her reduce smoking, if not quit altogether, Magee said.

"Quitting is really important and as a family doctor I can't stress enough that I think the ideal thing is for women to quit, but this speaks to cutting down also," she said.

The stakes are high. Prior research has shown that 80 percent of women who smoke continue to do so after becoming pregnant, meaning that 500,000 fetuses are exposed to tobacco in utero every year in the United States.

"It's very, very hard for moms to quit," Stroud said. "Having another way to get at smoking beyond the typical techniques via increasing attachment may be another path to helping moms quit. I think that's very exciting."

Provided by Brown University

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