

## New UTHealth trial aimed at helping pregnant women stop smoking

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A clinical trial to test the safety and efficacy of a medication that could help pregnant women stop smoking has begun enrollment at The University of Texas Health Science Center at Houston (UTHealth).

The study targets pregnant women in their second and third trimesters when smoking can be quite harmful to the fetus, said Angela Stotts, Ph.D., associate professor in the Department of Family and Community Medicine at the UTHealth Medical School.

"Pregnant women receive counseling or self-help materials but they may need something more powerful to stop smoking. Nicotine is one of the hardest substances to quit due to its action in the brain," Stotts said.

The medication, bupropion, is known under the brand name Zyban for smoking cessation and as the antidepressant Wellbutrin in a stronger formula.

"In nonpregnant smokers, bupropion has been shown to almost double the success rate of [smoking cessation](#) and is a relatively safe medication," Stotts said. "Some obstetricians already prescribe it during pregnancy for depression."

[Pregnant women](#) who smoke are twice as likely to suffer premature rupture of membranes, placental abruption and placenta previa, according to the [Centers for Disease Control and Prevention](#). They also have a 30 percent higher chance of delivering prematurely and their

infants are up to three times more likely to die from [sudden infant death syndrome](#). Infants born to smoking mothers also have a higher rate of [low birth weight](#), increasing their risk for illness or death. Some studies have also linked developmental problems such as attention disorders to mothers who smoked during pregnancy.

According to a 2004 CDC report, on average, 13 percent of women continued to smoke during their pregnancy. This varies dramatically by region, however, with the South having some of the highest rates, Stotts said.

"Smoking is an addiction and women who continue to smoke during pregnancy often say they want to quit for the benefit of their baby, but just can't overcome the need. We currently don't have many pharmacological options to assist them. Therefore, I think this study is extremely important and will impact our patients in a meaningful way," said Sean Blackwell, M.D., co-investigator and associate professor in the Department of Obstetrics, Gynecology and Reproductive Sciences at UTHealth. Blackwell is also the director of UTHealth's Larry C. Gilstrap Center for Perinatal and Women's Health Research.

A 2001 brain activation study published in the *Archive of General Psychiatry* concluded that bupropion appears to reduce the cravings associated with smoking. "It's an atypical antidepressant and the mechanism is not well known but we believe it works on several systems. We think it's mediated through the dopaminergic and noradrenergic systems," Stotts said. "It might act as an antagonist, blocking the effects of the nicotine, so people might not experience the same pleasant reinforcing properties of nicotine."

Provided by University of Texas Health Science Center at Houston

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