

# Model examines pregnancy's effects on opioid addiction treatment

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cause therapeutic failure and may explain the high withdrawal rate of subjects on methadone / buprenorphine maintenance therapy for opioid addiction," said senior author Dr. Raman Venkataramanan, of the University of Pittsburgh School of Pharmacy.

**More information:** Hongfei Zhang et al, Gestational Changes in Buprenorphine Exposure: A Physiologically Based Pharmacokinetic Analysis, *British Journal of Clinical Pharmacology* (2018). [DOI: 10.1111/bcp.13642](https://doi.org/10.1111/bcp.13642)

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Buprenorphine (BUP) is approved for the treatment of opioid addiction. The current dosing regimen of BUP in pregnant women is based on recommendations designed for non-pregnant adults, but physiological changes during pregnancy may alter BUP exposure and efficacy.

As described in a *British Journal of Clinical Pharmacology* study, researchers have developed a physiologically based pharmacokinetic model that predicts changes in BUP exposure at different stages of [pregnancy](#). The model predicted a decrease in BUP exposure during pregnancy and demonstrated the need for an increase in dose or dosing frequency to maintain efficacy throughout pregnancy. This must be followed by a reduction in dose of [buprenorphine](#) after delivery.

"Modeling can help make predictions when it is difficult to get actual data in a patient population such as pregnant women with opiate [addiction](#). Our predictions in fact agree with our clinical observations in a small number of patients published earlier. Lack of recognition of the impact of pregnancy on how the body handles drugs can

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