

Fracking activities may contribute to anxiety and depression during pregnancy

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A new study led by a researcher at Columbia University Mailman School of Public Health identifies a link between proximity to hydraulic fracking activities and mental health issues during pregnancy. Results appear in the journal *Environmental Research*.

The researchers looked at 7,715 mothers without anxiety or depression at the time of conception, who delivered at the Geisinger Health System in Pennsylvania between January 2009 and January 2013. They compared women who developed anxiety or depression during pregnancy with those who did not to see if the women's proximity to hydraulic fracturing activity played a role. Hydrofracking locations were available through public sources.

They found that for every 100 women, 4.3 additional women would experience anxiety or depression if they lived in the highest quartile of exposure compared to the other quartiles. The prevalence of anxiety or depression during pregnancy was 15 percent in the highest quartile, compared to just 11 percent in the lower three quartiles. The risk appeared greater among mothers receiving [medical assistance](#) (an indicator of low income) compared to those who did not: the authors observed 5.6 additional cases of anxiety or depression per 100 exposed women. They found no relationship between [anxiety](#) or depression during pregnancy and [preterm birth](#) and reduced term birth weight (an earlier study the research team found a link between proximity to hydrofracking and these adverse birth outcomes).

First author Joan Casey, Ph.D., assistant professor in the Department of Environmental Health Sciences, points to several possible reasons why living near fracking sites could lead to mental [health](#) problems in women. "Fracking activities may act as community-level stressors by degrading the quality of the natural environment, neighborhoods, such as by the production of toxic wastewater and increases in truck traffic, leading residents to feel a lack of control that harms their health," says Casey. "Another possibility is that air pollution from the sites could be directly contributing to mental health problems in this vulnerable population. Future research could examine other potential factors like air quality, noise, light pollution, psychosocial stress, and perception of activities."

More information: Joan A. Casey et al, Unconventional natural gas development and adverse birth outcomes in Pennsylvania: The potential mediating role of antenatal anxiety and depression, *Environmental Research* (2019). [DOI: 10.1016/j.envres.2019.108598](https://doi.org/10.1016/j.envres.2019.108598)

Provided by Columbia University's Mailman School of Public Health

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