

Study looks at maternal smoking in pregnancy, severe mental illness in offspring

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Smoking harms nearly every organ in the body and causes many diseases. Credit: CDC/Debra Cartagena

A population-based study that analyzed data for nearly 1.7 million people born in Sweden suggests family-related factors, rather than causal teratogenic effects (birth defect causing), may explain much of the association between smoking during pregnancy and severe mental illness in offspring, according to a new article published by *JAMA Psychiatry*.

Recent studies have suggested potential associations between smoking during [pregnancy](#) and later bipolar disorder, schizophrenia and other related outcomes in [offspring](#), which raises questions about the possibility that smoking during pregnancy has causal teratogenic effects. About 8 percent of pregnant women in the United States smoke, according to the article.

The study by Patrick D. Quinn, Ph.D., of Indiana University, Bloomington, and coauthors used population-level data and family-based comparisons of cousins and siblings to examine smoking during pregnancy and severe mental illness (defined as [bipolar disorder](#) and [schizophrenia spectrum disorders](#)) in offspring. Sibling comparisons were used because they are a strong test of a hypothesis about something that might cause birth defects because they rule out all the genetic and environmental influences that make siblings similar to one another.

At the population-level, offspring exposed to moderate and high levels of smoking during pregnancy had greater severe mental illness rates than those offspring who were unexposed but those associations decreased when familial factors were considered. The associations were weaker still and statistically nonsignificant in sibling comparisons, according to the results.

The study notes several limitations, including self-reported maternal smoking during pregnancy.

"This population- and family-based study failed to find support for a causal effect of [smoking](#) during pregnancy on risk of severe mental illness in offspring. Rather, these results suggest that much of the observed population-level association can be explained by measured and unmeasured factors shared by siblings," the article concludes.

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