

Smoking while pregnant may compromise children's kidney function

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In a new study, young children showed signs of kidney damage if their mothers smoked while pregnant. The findings, which appear in an upcoming issue of the *Clinical Journal of the American Society of Nephrology (CJASN)*, add to the list of negative health effects that can result from maternal smoking during pregnancy.

Because smoking is a well-known risk factor for kidney failure in adults, a team led by Koji Kawakami, MD, PhD, Maki Shinzawa, MD, PhD, and Motoko Yanagita MD, PhD (Kyoto University, in Japan) wondered whether maternal smoking during [pregnancy](#) might affect children's kidney health. The researchers conducted a population-based retrospective study using a database of health check-ups from pregnancy to 3 years of age in Japan. The investigators looked for the presence of proteinuria—or elevated protein in the urine, which is a sign of reduced kidney function—in urinary tests from 44,595 children.

In the population examined, 4.4% of women smoked only before pregnancy and 16.7% continued smoking while pregnant. The frequencies of proteinuria in the child at age 3 were 1.7% when mothers continued to smoke during pregnancy, 1.6% when mothers stopped smoking during pregnancy, and 1.3% when mothers were nonsmokers, respectively. Maternal smoking during pregnancy was associated with a 1.24-times increased risk of child proteinuria compared with no exposure to maternal smoking during pregnancy.

"Maternal smoking during pregnancy is known to be associated with

preterm birth, [low birth weight](#), and neonatal asphyxia. The findings from this study suggest an additional adverse effects of [maternal smoking](#) during pregnancy," said Dr. Kawakami. "Prevention of child proteinuria is important since child proteinuria can lead to development of [chronic kidney disease](#) in adulthood and ultimately end stage renal disease."

More information: "Maternal Smoking During Pregnancy, Household Smoking After the Child's Birth, and Childhood Proteinuria at Age Three," December 22, 2016, [DOI: 10.2215/CJN.05980616](https://doi.org/10.2215/CJN.05980616)

Provided by American Society of Nephrology

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