

# African-American infants at increased risk from tobacco smoke exposure

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Low levels of prenatal tobacco smoke exposure are associated with a higher risk of developmental problems for African American children than white children, according to new research from Cincinnati Children's Hospital Medical Center.

The findings were presented at noon ET Saturday, May 1, at the annual meeting of the Pediatric Academic Societies in Vancouver, Canada.

Prenatal exposure to tobacco smoke has already been linked to prematurity and cognitive defects in young children. Previous research has also shown [racial differences](#) in metabolism of nicotine among adolescents, adults, and pregnant women. The current study focused on the developmental differences between 242 white and black children at 1 and 2 years of age. The study was limited to children whose mothers had measureable levels of cotinine - a biological byproduct of nicotine - in their blood during pregnancy.

"We found that low-level prenatal [tobacco exposure](#) was associated with deficits in both motor and [cognitive development](#), but only for black children," said Kimberly Yolton, Ph.D., a developmental psychologist in the division of General and Community Pediatrics at Cincinnati Children's and lead investigator on the study.

The children were assessed for cognitive and motor development using The Bayley Scales of Infant Development (Second Edition). Although the researchers found no statistically significant association between

prenatal tobacco exposures and lower scores in white children, Dr. Yolton stressed expectant white mothers should still refrain from smoking.

"All women should be aware of the dangers of tobacco smoke to themselves and their developing babies, but our research suggests [African American women](#) should be particularly careful during pregnancy," Dr. Yolton said.

Interestingly, although only 30 percent of mothers in the study reported any exposure to tobacco smoke - either by smoking themselves or through second-hand exposure - all had measurable cotinine levels in their blood. Dr. Yolton said this indicates expectant mothers and their children may be at risk of exposure even when they don't realize it.

"And when pregnant mothers do smoke, the nicotine easily passes through the placenta to the developing baby, and nicotine concentrations are 15 times higher in the baby's blood than the mother's," she added.

Dr. Yolton said future research efforts are aimed at better understanding the metabolic and molecular reasons for tobacco smoke's harmful affects on infants and children as well as the racial disparities associated with exposure.

Provided by Cincinnati Children's Hospital Medical Center

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