NEW YORK, April 17 (UPI) -- Air pollution may play a role in obesity among as many as 25 percent of children living in U.S. inner-city neighborhoods, researchers said.

Lead author Andrew G. Rundle, a professor of epidemiology at Columbia's Mailman School of Public Health in New York, said pregnant women in New York exposed to higher concentrations of polycyclic aromatic hydrocarbons were more than twice as likely as others to have children who were obese by age 7.

The researchers recruited 702 non-smoking pregnant women through prenatal clinics at NewYork-Presbyterian Hospital and Harlem Hospital. The women were ages 18-35, either African-American or Dominican, and lived in predominantly low income areas in Northern Manhattan or the South Bronx.

In the course of two days during their third trimester, the women wore a small backpack equipped to sample continually the surrounding air. At night they placed it near their bed.

The study, published online in the American Journal of Epidemiology, found children of women exposed to high levels of polycyclic aromatic hydrocarbons during pregnancy were nearly twice as likely to be obese at age 5, and more than twice as likely to be obese at age 7, compared with children of mothers with lower levels of air pollution exposure.

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