

Department of Health and Human Services: National Institutes of Health study high lead levels during pregnancy linked to child obesity

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WHAT:

Children born to women who have high blood levels of lead are more likely be overweight or obese, compared to those whose mothers have low levels of lead in their blood, according to a study funded by the National Institutes of Health and Health Resources and Services Administration. The study was conducted by Xiaobin Wang, M.D., of the Johns Hopkins Bloomberg School of Public Health in Baltimore, and colleagues. It appears in JAMA Network Open.

Researchers analyzed data on 1,442 mother-child pairs from the Boston Birth Cohort <<https://clinicaltrials.gov/ct2/show/NCT03228875>>, a large observational study that aims to determine the causes of preterm birth. Mothers' blood samples were analyzed for lead exposure 24 to 72 hours after they gave birth. Children had their weight assessed periodically throughout childhood. At an average age of 8.1 years, children born to mothers with high lead levels were more than four times as likely to be overweight or obese than children born to mothers with low lead levels.

Among women who had high lead levels, the risk of their children being obese or overweight decreased if the women had adequate levels of folate 24 to 72 hours after giving birth. The U.S. Preventive Services Task Force recommends <<https://www.cdc.gov/ncbddd/folicacid/recommendations.html>>that all women of reproductive age consume 400 micrograms of folic acid (the synthetic form of folate) each day to help prevent neural tube defects, a class of birth defects affecting the brain and spine. Women in the study had earlier responded to a

questionnaire indicating whether they had taken a supplement containing folic acid in the second and third trimesters of pregnancy. The authors note that if their results are confirmed, testing pregnant women for lead exposure and then offering folic acid to those who have high levels could potentially reduce their children's risk of being overweight or obese.

NIH funding was provided by the Eunice Kennedy Shriver National Institute of Child Health and Human Development and the National Institute of Environmental Health Sciences.

Lead exposure during pregnancy also may have harmful effects on mother and baby. The U.S. Centers for Disease Control and Prevention offers advice <<https://www.cdc.gov/nceh/lead/prevention/pregnant.htm>> on how pregnant women can reduce their exposure to lead.

WHO:

John Ilekis, Ph.D., of NICHD's Pregnancy and Perinatology Branch, is available for comment.

ARTICLE:

Wang, G. Association between maternal exposure to lead, maternal folate status, and intergenerational risk of childhood overweight and obesity. JAMA Network Open. 2019. doi:10.1001/jamanetworkopen.2019.12343.

About the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD): NICHD conducts and supports research in the United States and throughout the world on fetal, infant and child development; maternal, child and family health; reproductive biology and population issues; and medical rehabilitation. For more information, visit NICHD's website <<https://www.nichd.nih.gov/>>.

About the National Institutes of Health (NIH): NIH, the nation's medical research agency, includes 27 Institutes and Centers and is a component of the U.S. Department of Health and Human Services. NIH is the primary federal agency conducting and supporting basic, clinical, and translational medical research, and is investigating the causes, treatments, and cures for both common and rare diseases. For more information about NIH and its programs, visit <www.nih.gov>.