

Hopkins-led study finds long-banned chemicals found in pregnant mothers' blood

June 25 2013, by Tim Wheeler

As a reminder of just how persistent some toxic chemicals can be, a Johns Hopkins-led research team reports finding traces of long-banned DDT and PCBs along with other contaminants in the blood of 50 pregnant women checked from Baltimore and its suburbs.

In a study posted online by the Journal of Exposure Science and Environmental Epidemiology, the scientists say they detected more frequent and vigorous [fetal movements](#) in the wombs of mothers with higher levels of contaminants.

While previous studies have looked for impacts of such contaminants on children's development after they're born, this one differed in that it saw effects in utero, explained the lead author, Janet DiPietro, a [developmental psychologist](#) and associate dean for research at the Bloomberg School of Public Health. Her co-authors included two other Hopkins researchers and one from Emory University's Rollins School of Public Health in Atlanta.

"To me, the fetus is the canary in the [coal mine](#)," she said. "If you can observe an effect on fetal behavior, you know it's affecting the developing nervous system right at that moment."

DiPietro cautioned, though, that this study didn't look at whether exposure to such low levels of contaminants actually harm the [fetus](#). A follow up with a larger number of [pregnant mothers](#) is needed, she said, which would track the development of their children.

Meanwhile, DiPietro said she's not advising pregnant women to get tested for contaminants.

"There's nothing they can do about it," she said. "They're not getting these exposures by eating and drinking certain things. These exposures are just out there, and who knows? Some of this may be passed on by their own mothers."

The [blood samples](#) involved in the study were taken more than a decade ago, from 1999 to 2001, but it's not clear the results would be much different today. Indeed, [DDT](#) had been banned for nearly three decades by the time the blood was drawn, and [PCBs](#) two decades.

One of the more surprising findings of the study, DiPietro said, is that higher traces of contaminants were found in more affluent women than in their poorer counterparts. That would seem to conflict with other research indicating that residents of lower-income areas, often predominantly minority neighborhoods, tend to be exposed to more pollution than denizens of more affluent communities.

In this study, DiPietro explained, researchers drew blood from volunteers living around Johns Hopkins' inner-city East Baltimore campus, but also from women living in the suburbs. She said she's not sure why there were higher contaminant levels among the better-off women sampled, but she noted that a study in Spain got similarly counterintuitive results.

One suggested explanation - that richer people tend to eat more fresh fruits and vegetables, which may carry more pesticide residues - didn't pan out, DiPietro said. Researchers queried the women on what they ate, and didn't find upper-income study subjects eating that much healthier than their lower income counterparts.

"The broader message is that the downstream effects of these environmental [contaminants](#), even though we get rid of them, once you get rid of them it may be too late," she said. "They're already in the environment."

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