



First Study to Find Possible Link Between Woman's Exposure to Certain Forms of PCBs in Womb and Difficulty Becoming Pregnant as Adult

OAKLAND, CA (April 25, 2011) - A new study from the Public Health Institute's Child Health and Development Studies indicates for the first time that a daughter's exposure in her mother's uterus to polychlorinated biphenyls (PCBs) can affect how long it takes the daughter to become pregnant years later.

The study, which appears in the April issue of the journal *Reproductive Toxicology*, found "time to pregnancy" (TTP) was longer and thus more difficult for daughters who had been exposed in the uterus to certain forms of these manmade industrial chemicals and shorter for others. Women who ultimately could not conceive had been exposed in the womb to higher levels of the PCB compounds that were linked to longer periods of time without a pregnancy.

Although a connection was found between a daughter's PCB exposure in utero and fertility problems later in life, it is unknown whether the PCB exposure was the sole cause or whether other environmental exposures also contributed, said Barbara Cohn, the study's lead author and director of the landmark Child Health and Development Studies (CHDS).

"What this study probably means is that at any point in time there are women who fail to conceive or have a hard time conceiving because of some environmental exposure that went on very early before their birth," Cohn said.

The new study analyzed the PCBs in blood taken from mothers shortly after delivering their daughters; the mothers were participants in the CHDS from 1960 to 1963 and enrollees in the Kaiser Permanente Health Plan who lived in the Oakland, California, area. The study asked 289 of the daughters – all about 30 years old – how long they had tried to become pregnant.

PCBs were widely used in electrical equipment such as transformers and capacitors as well as in paints, plasticizers, pesticides and adhesives from 1929 until 1977. The U.S. banned the manufacture and use of this class of organic chemicals in the 1970s because of the chemicals' toxicity and link to cancer and other serious health effects. However, PCBs have been distributed in the soil, water and food chain virtually everywhere in the world and persist because they degrade slowly.

"The findings of this study have broad relevance," the authors wrote. "PCB exposure continues globally due to widespread soils contamination and bioaccumulation....The PCB dilemma could be a model for other contemporary persistent organic pollutants, particularly those that share structural similarities with PCBs, such as polybrominated diphenyl ethers, PBDEs."

The authors caution that the study does not provide a conclusive explanation for the difference in TTP among the daughters studied. “Whether these results are explained by chance, PCB exposure directly, underlying host factors, or other exposures that co-vary with prenatal PCB exposure is not known,” they wrote.

Also, whether there are other health-related consequences for the daughters who became pregnant more quickly is not known and will be studied further by this team.

The study is [available to read](#) on the PHI website.

About the Public Health Institute

The [Public Health Institute](#), an independent nonprofit organization based in Oakland, California, is dedicated to promoting health, well-being and quality of life for people throughout California, across the nation and around the world. PHI's primary methods for achieving these goals include: sharing evidence developed through quality research and evaluation; providing training and technical assistance; and promoting successful prevention strategies to policymakers, communities and individuals.

Contact:

Jessica Tomlinson
Special Advisor, Planning and Communications
Public Health Institute
jtomlinson@phi.org
(510) 285-5533

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