

Exposure to insecticide may play role in obesity epidemic among some women

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Prenatal exposure to an insecticide commonly used up until the 1970s may play a role in the obesity epidemic in women, according to a new study involving several Michigan State University researchers.

More than 250 mothers who live along and eat [fish](#) from [Lake Michigan](#) were studied for their exposure to DDE - a breakdown of DDT. The study, published as an editor's choice in this month's edition of *Occupational and Environmental Medicine*, analyzed DDE levels of the women's offspring.

Compared to the group with the lowest levels, those with intermediate levels gained an average of 13 pounds excess weight, and those with higher levels gained more than 20 pounds of excess weight.

"Prenatal exposure to toxins is increasingly being looked at as a potential cause for the rise in obesity seen worldwide," said Janet Osuch, a professor of surgery and epidemiology at MSU's College of Human Medicine, who was one of the lead authors of the study. "What we have found for the first time is exposure to certain toxins by eating fish from polluted waters may contribute to the [obesity epidemic](#) in women."

Though DDT was banned in 1973 after three decades of widespread use, the chemical and its [byproducts](#) remain toxic in marine life and fatty fish. The study was funded by a \$300,000 grant from the federal Agency for Toxic Substances and Disease Registry.

Osuch said the study's findings can have a huge impact on how researchers treat - and seek to prevent - obesity. The research team has been awarded a \$1 million grant from the same federal agency, the ATSDR, to assess the impact of pollutants and toxins on a wide variety of disorders by determining the importance of second- and third-generation health effects.

"This line of research can transform how we think about the causes of obesity and potentially help us create prenatal tests to show which offspring are at higher risks," she said.

The mothers who were studied are part of a larger cohort of Michigan fish eaters along Lake Michigan who were recruited in the early 1970s. In 2000, Osuch and research partners approached the cohort and began to identify daughters aged 20 to 50 years old.

"These findings not only apply to the offspring of women in our cohort but to any woman who has been exposed to high levels of DDE when she was growing in her mother's womb," Osuch said. "Mothers with the highest DDE levels are women who have consumed a lot of fish or high-fat meats."

Current recommendations for eating fish call for limiting it to two meals per week; including tuna fish sandwiches. The study also looked at the effects of a second pollutant, PCBs, but found no correlation with weight and body mass index.

Source: Michigan State University ([news](#) : [web](#))

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