

BPA linked to aggressive behavior in young girls, research suggests

October 8 2009, By Sarah Avery

Pre-birth exposure to a chemical widely used in plastics appears to be linked to more aggressive behavior in little girls, according to research published Tuesday by a scientist at the University of North Carolina-Chapel Hill.

The findings, which are preliminary and call for more study, are the first to connect behavior problems in humans with the chemical bisphenol A, which is a key component of plastic bottles, the liners inside canned goods and medical devices.

The chemical leaches from plastic and is detectable at some level in nearly everyone's system. Scientists began to raise concerns about [BPA](#) because of its tendency to mimic estrogen -- a hormone that plays a crucial role in establishing the sex differences in the brains of developing fetuses.

Studies in mice have shown fetal BPA exposure can abolish or reverse inherent behavioral differences between the sexes -- specifically, females act more aggressive -- and those studies prompted questions about what the chemical does to humans.

Joe Braun, a doctoral student in epidemiology at the UNC-CH Gillings School of Global Public Health and one of the authors of the aggression study in the journal [Environmental Health Perspectives](#), said researchers began examining the effects of BPA two years ago with a group of pregnant women enrolled in a larger study into lead.

The researchers measured BPA levels in urine samples from 249 women at three different times during their pregnancies: At 16 weeks, 26 weeks and birth. Later, they observed the women's children at age 2, using a standard behavioral test.

They found that women who had the highest concentrations of BPA at 16 weeks of pregnancy were inclined to have more aggressive, hyperactive 2-year-old daughters. There was no statistically significant change of behavior among the boys, although there was some evidence of heightened [anxiety](#) and [depression](#).

"It's an intriguing finding that suggests the need for more research in this field, especially with prenatal exposure and the timing of exposures," Braun said.

Timing is especially important from a regulation standpoint.

Some have called for curbs on BPA, and Canada last year became the first country to ban BPA in baby bottles. Afterward, Wal-Mart and Toys R Us announced it would stock only BPA-free baby bottles, toys and baby food containers in all its stores.

But the work of Braun's team suggests that the time to limit exposure is in the womb -- maybe even before many women know they are pregnant.

And that could lead to calls for a larger BPA ban, and a far more controversial approach.

"It's hard to remove it from all consumer products," said John Bucher, associate director of the National Toxicology Program. He noted that baby items represent less than 2 percent of the plastic products sold to consumers.

Bucher said the National Institute of Environmental Health Sciences, which is one of the National Institutes of Health, has allocated \$30 million to study BPA.

But the research, coming after the chemical has become so widespread in the marketplace, may result in a regulatory effort akin to putting toothpaste back in the tube.

"Polycarbonate plastic is a huge market," Bucher said. "It goes into lots and lots of things, many where BPA may not be harmful."

The American Chemistry Council, along with BPA plastics manufacturers in Europe and Japan, cite studies showing that the chemical additive is safe. The groups note that BPA does not appear to cause cancer, and that "the potential human exposure to BPA from polycarbonate plastic and epoxy resin food contact applications is minimal and poses no known risk to human health."

COMMON CONSUMER PRODUCTS THAT CAN LEACH BPA

- Clear, hard water bottles
- Cans of liquid baby formula
- Canned goods, particularly soups and pasta
- Some plastic food containers, often those marked with #7 recycling code

Source: Environmental Working Group

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