Research links pesticides with ADHD in children

Study Links Pesticides to ADHD

By CARLA K. JOHNSON, AP Medical Writer – Mon May 17, 12:02 am ET

CHICAGO – A new analysis of U.S. health data links children's attention-deficit disorder with exposure to common pesticides used onfruits and vegetables.

While the study couldn't prove that pesticides used in agriculture contribute to childhood learning problems, experts said the research is persuasive.

"I would take it quite seriously," said Virginia Rauh of Columbia University, who has studied prenatal exposure to pesticides and wasn't involved in the new study.

More research will be needed to confirm the tie, she said.

Children may be especially prone to the health risks of pesticides because they're still growing and they may consume more pesticide residue than adults relative to their body weight.

In the body, pesticides break down into compounds that can be measured in urine. Almost universally, the study found detectable levels: The compounds turned up in the urine of 94 percent of the children.

The kids with higher levels had increased chances of having ADHD, attention-deficit hyperactivity disorder, a common problem that causes students to have trouble in school. The findings were published Monday in Pediatrics.

The children may have eaten food treated with pesticides, breathed it in the air or swallowed it in their drinking water. The study didn't determine how they were exposed. Experts said it's likely children who don't live near farms are exposed through what they eat.

"Exposure is practically ubiquitous. We're all exposed," said lead author Maryse Bouchard of the University of Montreal.

She said people can limit their exposure by eating organic produce. Frozen blueberries, strawberries and celery had more pesticide residue than other foods in one government report.

A 2008 Emory University study found that in children who switched to organically grown fruits and vegetables, urine levels of pesticide compounds dropped to undetectable or close to undetectable levels.

Because of known dangers of pesticides in humans, the U.S. Environmental Protection Agency limits how much residue can stay on food. But the new study shows it's possible even tiny, allowable amounts of pesticide may affect brain chemistry, Rauh said.

The exact causes behind the children's reported ADHD though are unclear. Any number of factors could have caused the symptoms and the link with pesticides could be by chance.

The new findings are based on one-time urine samples in 1,139 children and interviews with their parents to determine which children had ADHD. The children, ages 8 to 15, took part in a government health survey in 2000-2004.

As reported by their parents, about 150 children in the study either showed the severe inattention, hyperactivity and impulsivity characteristic of ADHD, or were taking drugs to treat it.

The study dealt with one common type of pesticide called organophosphates. Levels of six pesticide compounds were measured. For the most frequent compound detected, 20 percent of the children with above-average levels had ADHD. In children with no detectable amount in their urine, 10 percent had ADHD.

"This is a well conducted study," said Dr. Lynn Goldman of the Johns Hopkins Bloomberg School of Public Health and a former EPA administrator.

Relying on one urine sample for each child, instead of multiple samples over time, wasn't ideal, Goldman said.

The study provides more evidence that the government should encourage farmers to switch to organic methods, said Margaret Reeves, senior scientist with the Pesticide Action Network, an advocacy group that's been working to end the use of many pesticides.

"It's unpardonable to allow this exposure to continue," Reeves said.