Researchers from the University of Rochester have found the first evidence that early life exposure to groundwater contaminated by fracking chemicals “alters” the immune system in mice.

The paper, published Tuesday in Toxicological Sciences, could imply potential health dangers for the roughly 17.6 million Americans living within a mile of least one active oil or gas well.

For the study, researchers exposed pregnant mice to a mixture of 23 chemicals found in fracking groundwater that are known endocrine disruptors.

The researchers then observed that the mouse pups, particularly females, exposed to the 23 chemicals in the womb had “abnormal immune responses” in fighting off several types of diseases, including an allergic disease, a type of flu and a disease similar to multiple sclerosis, according to a press release of the analysis.

“The mice whose moms drank water containing the mixture had faster disease onset and more severe disease,” lead author Paige Lawrence, the chair of Environmental Medicine at the University of Rochester Medical Center, explained to Environmental Health News.

Human and mice immune systems are “more similar than they are different,” Lawrence added to the news site. “This provides information as to what to look for in people.”

The authors of the current study suggest more research is needed to understand how fracking chemicals impact the human immune system.

Fracking, aka hydraulic fracturing or unconventional oil and gas extraction, is a drilling technique that shoots high volumes of water, sand and a stew of chemicals into Earth to fracture rock and release oil and gas. Hundreds of unique chemicals are used during the process, including ones that can contaminate drinking water, air and soil and to harm human health, previous studies have found.

“This discovery opens up new avenues of research to identify, and someday prevent, possible adverse health effects in people living near fracking sites,” Lawrence said in a statement.

“Our goal is to figure out if these chemicals in our water impact human health,” she continued, “but we first need to know what specific aspects of health to look at, so this was a good place to start.”

The paper is titled “Developmental Exposure to a Mixture of 23 Chemicals Associated With Unconventional Oil and Gas Operations Alters the Immune System of Mice.”

Source: ecowatch