

People near 'fracking' wells report health woes

Wendy Koch, USA Today, 9-10-14

People living near natural-gas wells were more than twice as likely to report upper-respiratory and skin problems than those farther away, says a major study Wednesday on the potential health effects of fracking.

Nearly two of every five, or 39%, of those living less than a kilometer (or two-thirds of a mile) from a well reported upper respiratory symptoms, compared to 18% living more than 2 kilometers away, according to a Yale University-led random survey of 492 people in 180 households with ground-fed water wells in southwestern Pennsylvania.

The disparity was even greater for skin irritation. While 13% of those within a kilometer of a well said they had rashes and other skin symptoms, only 3% of those beyond 2 kilometers said the same.

"This is the largest study to look at the overall health of people living near the wells," says lead author and University of Washington environmental health professor Peter Rabinowitz, who did the research while at Yale. The study focused on Washington County, part of the Marcellus Shale where hydraulic fracturing, or fracking, is widely used to extract natural gas.

"It suggests there may be more health problems in people living closer to natural gas wells," but it doesn't prove that the wells caused their symptoms, he says, adding more research is needed.

Fracking, combined with horizontal drilling, has spurred a U.S. boom in oil and natural-gas production. It blasts huge amounts of water — mixed with sand and chemicals — deep underground to break apart shale deposits and extract gas and oil from the rock's pores.

Prior peer-reviewed studies have linked fracking to possible birth defects, higher lung disease risks, methane contamination in drinking water and elevated endocrine-disrupting chemical activity in groundwater. Some environmental groups, including the Natural Resources Defense Council, oppose fracking, saying it has insufficient safeguards.

Yet the oil and gas industry defends fracking as a safe way to bolster the U.S. economy and lessen the nation's dependence on foreign sources of energy.

"There are zero confirmed cases of groundwater contamination connected to the fracturing operation in 1 million wells hydraulically fractured over the past 60 years," says a July report by the American Petroleum Institute. It says "numerous protective measures are in place at well sites" and "federal statutes regulate every step" of the process.

"We don't really know the cause" of the higher self-reported health symptoms, says Yale research scientist Meredith Stowe, co-author of the paper, which was published in *Environmental Health Perspectives*.

"There's a number of possible air contaminants," Rabinowitz says, noting the flaring of gas wells and the diesel exhaust from heavy equipment at fracking sites. Also, the study notes that well water could become contaminated if there are breaks in the gas well casing or other leaks from fracking activities.

"Stress could also be a cause of skin rashes," he says. He found the disparities in skin and respiratory symptoms persisted even after adjusting for participants' gender, age, educational level, smoking and awareness of environmental risk factors.

The study did not find a significant increase in neurological, cardiovascular or gastrointestinal symptoms among those living closer to natural gas wells.

At the time the research was conducted in the summer of 2012, the Pennsylvania Department of Environmental Protection said there were 624 active natural-gas wells in the survey area, 95% of which used fracking. The study received funding from private foundations, including The Heinz Endowments.