

Children exposed to Deepwater Horizon oil spill suffered physical, mental health effects

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On April 20, 2010, an explosion on the Deepwater Horizon oil rig

triggered what would become the largest marine oil spill in history. Before the well was finally capped 87 days later on July 15, an estimated 4 million barrels of oil had gushed into the Gulf of Mexico, harming ecosystems, contaminating shorelines, and strangling the fishing and tourism industries.

A study recently published in *Environmental Hazards* has found that the disaster was also harmful to the mental and physical health of children in the area. Led by Jaishree Beedasy from the National Center for Disaster Preparedness (NCDP) at Columbia University's Earth Institute, the study found that Gulf Coast children who were exposed to the oil spill—either directly, through [physical contact](#) with oil, or indirectly through economic losses—had a significantly higher likelihood of experiencing physical and mental health problems compared to kids who were not exposed. When interviewed in 2014, three out of five parents reported that their child had experienced physical health symptoms and nearly one third reported that their child had mental health issues after the oil spill. The researchers hope their findings can inform future disaster recovery plans.

The findings also show that "the impacts of the oil spill on children's health appear to persist years after the disaster," said Beedasy.

Although natural disasters don't discriminate, they do disproportionately harm vulnerable populations, such as people of color and people with lower incomes. Children are another vulnerable group, because their coping and cognitive capacities are still developing, and because they depend on caregivers for their medical, social, and educational needs. A growing body of evidence demonstrates that disasters are associated with severe and long-lasting health impacts for children. However, very few studies have evaluated the impacts of [oil spills](#) on children.

Oil spills have the potential to affect children in many ways. The child

might come into direct contact with the oil by touching it, inhaling it, or ingesting it. Direct exposure to oil, dispersants, and burned oil can cause itchy eyes, trouble breathing, headache, dizziness, rashes, and blisters, among other issues. Children can also suffer from secondary impacts if a parent loses their job, if their daily routines are disrupted, or if others in the family feel distressed or suffer health problems.

To find out how the oil spill might be affecting children in the area, in 2014, the researchers interviewed 720 parents and caregivers who lived in Louisiana communities highly impacted by the oil spill. They collected information such as whether the child or parent had been in contact with oil, whether the household was economically impacted, and the health status of the child and parent.

In the interviews, 60 percent of the parents reported that their child had experienced physical health problems—defined as respiratory symptoms, vision problems, skin problems, headaches, and unusual bleeding—at some time after Deepwater Horizon. Thirty percent of the parents said their child had experienced mental health issues such as feeling depressed or very sad, feeling nervous or afraid, having sleeping problems, or having problems getting along with other children.

The survey found that physical health problems were 4.5 times more common in children who had been directly exposed to oil, and in children whose parents had been exposed to oil smell. Children with indirect exposure to oil through their parents were also much more likely to have physical health issues. And those living in households that reported loss of income or jobs as a result of the oil spill were nearly three times more likely to have physical health problems compared to kids whose families hadn't had those problems. In households where the parent was white, held at least a college degree, or the household income was more than \$70,000 a year, the parent was less likely to report physical health issues for the child.

The study found similar links in regard to children's mental health. Kids who had been directly exposed to oil were 4.5 times more likely to have [mental health issues](#). These effects were also three times more common in children whose parents had been exposed to oil smell, or whose parents had lost incomes or jobs as a result of the spill.

The researchers acknowledge that the results of the study could have been affected by certain limitations such as parents not having proper recall of some of the effects in their children. However, the results strongly indicate that children exposed to the Deepwater Horizon oil spill were more likely to suffer from adverse physical and mental health effects. The findings also emphasize the importance of considering secondary impacts such as job loss and family tensions during disaster recovery.

To help with recovery, Beedasy and her colleagues at the National Center for Disaster Preparedness previously ran a program called SHOREline for young people who had been affected by disasters along the Gulf Coast. SHOREline empowered youths and taught them [disaster preparedness](#) skills so that they could help themselves, their families, communities, and youth in other communities to recover from the losses and disruptions caused by extreme events.

"Programs like SHOREline are particularly helpful to [children](#) in disasters as they can lead to the development of skills that can enable them to help themselves, their peers and communities to recover from disasters," said Beedasy.

However, resilience also needs to happen at other levels of society as well. Beedasy said she hopes the findings will help in designing evidence-based policies that enhance disaster resilience. "Our findings underscore the need for communities to have access to healthcare services, social services, job opportunities and education before and after a disaster to

enhance their resilience and recovery trajectories," she said.

More information: Jaishree Beedasy et al. Gulf Coast parents speak: children's health in the aftermath of the Deepwater Horizon oil spill, *Environmental Hazards* (2020). [DOI: 10.1080/17477891.2020.1772188](https://doi.org/10.1080/17477891.2020.1772188)

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