

# Broader psychological impact of 2010 BP oil spill

EurekAlert

Baltimore, MD Feb. 17, 2011. The explosion and fire on a BP-licensed oil platform in the Gulf of Mexico in April 2010 had huge environmental and economic effects, with millions of gallons of oil leaking into the water for more than five months. It also had significant psychological impact on people living in coastal communities, even in those areas that did not have direct oil exposure, according to researchers at the University of Maryland School of Medicine who worked in collaboration with the University of Florida, Gainesville. Study results will be published in the February 17 online edition of *Environmental Health Perspectives*, a publication of the National Institutes of Health.

"We found that people living in communities with and without direct oil exposure had similar levels of psychological distress. People in both groups showed clinically significant levels of depression and anxiety. Also, when compared to people whose income was unaffected by the disaster, people with spill-related income loss in both groups had higher rates of depression, were less resilient and were more likely to cope using 'behavioral disengagement,' which involves just 'giving up' trying to deal the problem," explains Lynn Grattan, Ph.D., associate professor of neurology at the University of Maryland School of Medicine.

The Maryland investigators, who traveled to the region soon after the spill, worked with Gulf Coast community leaders to get "real-time" assessments of the acute impacts of the spill. Their goal was to measure the acute psychological distress, coping resilience and perceived risk (concerns about the environmental impact and potential health consequences) of people living along the Gulf Coast. By doing this, they could help identify the potential mental health needs of the Northwest Gulf Coast communities. They examined the psychological impact in two fishing communities: Baldwin County, Alabama, and Franklin County, Florida. Baldwin County had direct oil exposure; Franklin County did not. The researchers defined indirect impact as a place where oil did not physically reach the coastline, but where anticipation of the oil spread significantly affected the community's recreation, tourism and fishing industries.

"The findings of these University of Maryland researchers may have important implications for planning public health response in similar situations, suggesting that a broader approach may be needed," adds E. Albert Reece, M.D., Ph.D., M.B.A., vice president for medical affairs at the University of Maryland and dean of the University of Maryland School of Medicine.

The people in Florida, where oil had not reached shore, showed similar elevated levels of anxiety and depression as those living in Alabama who had direct oil exposure. Both groups had similar high levels of worry about the impact of the spill on the environment, health and seafood safety.

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However, the levels of psychological distress were higher in both communities among people who had suffered income loss because of the spill. They had significantly more tension, anger, fatigue and overall mood disturbance than those whose income was not adversely affected. These people also had lower scores on resilience and may have fewer psychological resources to bounce back from adversity.

"From a public health standpoint, we need to understand that when there is a significant environmental crisis, we need to extend public health outreach and education, psychological monitoring and mental health services beyond the immediately affected areas, paying particular attention to people at risk for income loss. There are things that can be done to help people manage their stress and anxiety, and cope in these situations, so these interventions need to be available immediately in the communities where the impacted individuals live," adds Dr. Grattan, who is also a neuropsychologist at the University of Maryland Medical Center.

The study on psychological impact built on a research program by University of Florida investigators who were already in the area to study the acute environmental and health impact of the spill. Through contacts with local community and religious leaders, trade associations, the University of Florida extension office and other agencies, the Maryland researchers recruited 71 residents in Florida and 23 from Alabama for the psychological assessment.

The team evaluated the participants through interviews and standardized assessments of psychological distress, resilience and coping. The team also looked at whether the participants had cognitive symptoms of neurotoxicity as a result of exposure to oil and chemical dispersants. These included assessments of attention, memory, and dexterity and speed (through a pegboard puzzle task). The researchers also asked the participants about what they were doing to cope with the situation, which could range from prayer and meditation to increased use of alcohol and other drugs.

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