

Study of WTC responders: PTSD and respiratory illness linked

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(Medical Xpress) -- More than 10 years after 9/11, when thousands of rescue and recovery workers descended on the area surrounding the World Trade Center in the wake of the terrorist attacks, a research team led by Benjamin J. Luft, M.D., the Edmund D. Pellegrino Professor of Medicine, and Medical Director of Stony Brook's World Trade Center Health Program, and Evelyn Bromet, Ph.D., Distinguished Professor, Departments of Psychiatry and Behavioral Science, and Preventive Medicine, Stony Brook University School of Medicine, has published results of a study examining the relationship between the two signature health problems among WTC first responders—respiratory illness and post-traumatic stress disorder (PTSD).

The findings are published in the “FirstView” section online in [Psychological Medicine](#).

First responders to the WTC site were simultaneously exposed to an extraordinary environmental disaster and extreme mental trauma. Together, the unprecedented physical hazards, such as exposure to the combustion of jet fuel and the smoldering debris fire, combined with the emotional trauma of witnessing events related to massive death and destruction, has led to two persistent health problems among the workers: respiratory ailments and PTSD.

“This study illustrates the integral relationship between mental health and physical diseases that WTC responders suffer,” says Dr. Luft. “The analysis not only shows that relationship but also connects PTSD as a

possible co-factor in responders' diseases, which reinforces our view at Stony Brook's WTC Health Program that the illnesses suffered by 9/11 responders are a compilation of problems that often present as an entire syndrome of diseases and conditions."

In "Exposure, Probable PTSD and Lower Respiratory Illness Among [World Trade Center](#) Rescue, Recovery and Clean-Up Workers," Dr. Luft and colleagues at Stony Brook and other WTC clinics reported data from 8,508 traditional responders, primarily police officers, and 12,333 non-traditional responders, including maintenance and transportation workers. They were examined between July 16, 2002, and September 11, 2008, at WTC Health Program clinics – a network in the New York Metro area established by the National Institute for Occupational Safety and Health (NIOSH). The research team found a striking correlation between PTSD and [respiratory symptoms](#), with evidence that PTSD might play a mediating role in the exposure-symptom relationship.

The study explored patterns of associations among WTC exposures, health risk factors such as obesity and smoking, WTC-related PTSD, physician-assessed respiratory symptoms that arose after 9/11 and were present at examination, and abnormal pulmonary functioning defined by low forced vital capacity.

The researchers found lower rates of probable PTSD among police (5.9%) than non-traditional responders (23%). Somewhat fewer police (22.5%) suffered from respiratory symptoms than non-traditional responders (28.4%). Yet pulmonary function test results were similar in both groups. Statistical analyses showed that PTSD and respiratory symptoms were moderately correlated, and PTSD was potentially mediating the relationship between WTC exposure and respiratory symptoms in both groups.

"The results are indicative that PTSD appears to have a major and

complex role in relation to respiratory illnesses in this patient population,” says Dr. Bromet, a world renowned expert in psychiatric epidemiology and disaster research. “Our findings mirror research results found in several veterans’ populations and in patients in primary care settings around the world. Mental and physical health are integrally linked. It is not always obvious which one is the driver, but in the end, what matters is that both mental and physical health are recognized and treated with equal care and respect.”

Drs. Bromet and Luft say the findings underscore the idea that mental health screening of WTC responders is just as essential as screening for respiratory symptoms. More broadly, they believe that preventative interventions should be in place for non-traditional responders who volunteer to participate in disaster-related activities, as the study revealed that non-traditional WTC responders reported significantly higher rates of probable PTSD than police. Furthermore, the study’s findings emphasize the need to recognize the role of PTSD and its consequent risk for long-term disability in WTC responders.

Dr. Luft cautions that additional investigation and long-term data are needed to better define the link between PTSD and respiratory symptoms in WTC responders and to measure the impact of this interaction on the extent of disability in WTC responders.

“The results are a first step in nailing down the exact relationship between PTSD and respiratory illness,” says Dr. Luft. “We need to continue to study the relationship and its implications to help us to better treat responders who suffer from multiple mental and physical conditions.”

Provided by Stony Brook University

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