

Critical illness from 2009 H1N1 in Mexico associated with high fatality rate

October 12 2009

Critical illness from 2009 influenza A(H1N1) in Mexico occurred among young patients, was associated with severe acute respiratory distress syndrome and shock, and had a fatality rate of about 40 percent, according to a study to appear in the November 4 issue of *JAMA*. This study is being published early online to coincide with its presentation at a meeting of the European Society of Intensive Care Medicine.

Novel 2009 [influenza](#) A(H1N1) was first reported in the southwestern United States and [Mexico](#) in March 2009. Between March 18 and June 1, 2009, 5,029 cases and 97 documented deaths occurred in Mexico. The population and health care system in Mexico City experienced the first and greatest early burden of critical illness, according to background information in the article.

Guillermo Domínguez-Cherit, M.D. of Instituto Nacional de Ciencias Médicas y Nutrición "Salvador Zubirán," Mexico City, and colleagues conducted an observational study of critically ill patients at six hospitals in Mexico that treated the majority of such patients with confirmed, probable, or suspected 2009 influenza A(H1N1) between March 24 and June 1, 2009. The study focused on the death rate, rate of [critical illness](#) and mechanical ventilation, and length of stay in the hospital and the intensive care unit.

Among 899 patients admitted to hospitals with confirmed, probable, or suspected 2009 influenza A(H1N1), 58 became critically ill. The critically ill patients had a median (midpoint) age of 44 years. Most were

treated with antibiotics, and 45 patients were treated with anti-influenza drugs known as neuraminidase inhibitors, including oseltamivir and zanamivir. Fifty-four patients required mechanical ventilation.

"Our analysis of critically ill patients with 2009 influenza A(H1N1) reveals that this disease affected a young patient group," the authors write. "Fever and respiratory symptoms were harbingers of disease in almost all cases. There was a relatively long period of illness prior to presentation to the hospital, followed by a short period of acute and severe respiratory deterioration."

By 60 days, 24 of the critically ill patients (41.4 percent) died. Nineteen patients died within the first two weeks after becoming critically ill.

"Patients who died had greater initial severity of illness, worse hypoxemia [abnormally low levels of oxygen in the blood], higher creatinine kinase levels, higher creatinine levels, and ongoing organ dysfunction," the authors report.

"Early recognition of disease by the consistent symptoms of fever and a respiratory illness during times of outbreak, with prompt medical attention including neuraminidase inhibitors and aggressive support of oxygenation failure and subsequent organ dysfunction, may provide opportunities to mitigate the progression of illness and mortality observed in Mexico," they conclude.

More information: JAMA. 2009;302(17). [doi:10.1001/jama.2009.1536](https://doi.org/10.1001/jama.2009.1536)

Source: JAMA and Archives Journals ([news](#) : [web](#))

Citation: Critical illness from 2009 H1N1 in Mexico associated with high fatality rate (2009,

October 12) retrieved 25 April 2024 from <https://medicalxpress.com/news/2009-10-critical-illness-h1n1-mexico-high.html>

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