

Depression may increase exacerbations, hospitalizations in COPD

October 24 2008

It is well known that patients with chronic obstructive pulmonary disease (COPD) frequently suffer from depression and anxiety, but according to new research, depression and anxiety may actually cause increased hospitalizations and exacerbations.

"This is an important and revealing finding, indicating that for COPD patients, depression and anxiety must be treated as potential clinically important risk factors, rather than simple comorbidities that are caused by COPD," said principle investigator of the paper, Jean Bourbeau, M.D., director of the Respiratory Epidemiology and Clinical Research Unit of McGill University, in Montreal.

The research, published in the first issue for November of the American Thoracic Society's clinical research journal, the *American Journal of Respiratory and Critical Care Medicine*, is the first study to indicate a causal relationship between depression and exacerbations and hospitalizations for COPD.

To determine whether depression and anxiety were independent risk factors for COPD exacerbations and hospitalizations, the researchers prospectively recruited nearly 500 patients with stable COPD from ten hospitals in Beijing. Each patient was assessed at baseline for anxiety and depression as well as disease severity. They were contacted monthly by telephone for one year to determine whether they had experienced any exacerbations or hospitalizations.

"Almost a quarter of the patients we monitored were suspected of having depression at baseline (13.8 percent possible and 9 percent probably cases), and nearly one in ten were suspected of having anxiety (4.5 percent possible and 5.1 percent probable cases)," said Dr. Bourbeau.

Depressed patients had a higher proportion of concurrent anxiety than non-depressed patients. They also had higher mortality, more symptom- and event-based exacerbations and hospitalizations and longer hospital stays than non-depressed patients. They were also more likely to have had past exacerbations and hospitalizations. Hospital stays were nearly two and a half times as long for depressed patients, although the association did not reach statistical significance.

Anxiety was also associated with a greater risk of exacerbations and longer hospital stays. Overall, among patients with anxiety who had at least one exacerbation, the exacerbation lasted nearly twice as long as those without anxiety, but there was no support for previous findings that hospitalizations were affected by anxiety in length or frequency.

Because these effects were evident after adjustments for all known confounding factors using a causal diagram, and because the outcomes were measured after psychological exposures, the researchers assert that not only is depression linked to greater risk of more and lengthier COPD exacerbations and hospitalizations, but that their findings suggest a causal relationship.

"To our knowledge this is the first report of the possible causal association between depressive symptoms and exacerbations and hospitalizations in stable COPD. However, people have to realize that the causal relationship is a complicated issue and will require further evaluation as part of other properly designed longitudinal studies," wrote Dr. Bourbeau.

While they acknowledge that there may have been a differential loss of depressed/non-depressed patients in follow up, because patients who withdrew earlier had more severe COPD and were more depressed than those who completed follow-up, it is likely that the association was underestimated than anything. "Similarly, the association between anxiety and exacerbations may have been underestimated due to the differential attrition," said Dr. Bourbeau.

The researchers proposed a number of possible explanations for their findings—that depression itself may effect changes in the immune system; that depression affects patients' ability to adapt to chronic symptoms, thereby making them more likely to make frequent visits to the doctor and receive pharmacological treatment; or depression may decrease self-confidence and increase feelings of hopelessness, resulting in poorer self-care and poorer medication compliance.

"The results of this study can guide researchers and clinicians to evaluate in COPD patients with depression the effectiveness of antidepressants and psychotherapies on reducing exacerbations and related complications such as hospital admissions," concluded Dr. Bourbeau.

Source: American Thoracic Society

Citation: Depression may increase exacerbations, hospitalizations in COPD (2008, October 24) retrieved 26 April 2024 from

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