

COPD may damage aging brain

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Study finds higher odds for mental decline without memory loss in patients with the lung disorder.

(HealthDay)—Seniors with chronic obstructive pulmonary disease (COPD) have an increased risk of developing mental decline, especially thinking problems without apparent memory loss, a new study suggests.

This diminished brain function—called "nonamnesic" [mild cognitive impairment](#)—was significantly more common among older adults with COPD than those without the disabling respiratory disorder, according to the study of more than 1,400 adults.

"We found that COPD was associated with problems with attention, planning and problem-solving, but not with memory," said study co-author Michelle Mielke, an associate professor with the division of epidemiology at the Mayo Clinic in Rochester, Minn.

"This is important, because for one thing COPD is potentially preventable," Mielke said. Also, in order to preserve long-term mental

functioning, this finding highlights the need to try to stop COPD from occurring altogether or treat it early when it does occur, she said.

COPD is a common, progressive disease characterized by reduced airflow to the lungs, resulting in shortness of breath, wheezing and coughing. The main types of COPD are chronic bronchitis and emphysema. Smoking is the leading cause of the condition.

For the new study, published online March 17 in the journal *JAMA Neurology*, the researchers focused on about 1,400 randomly chosen Minnesota residents. All were between 70 and 89 years, and had a clean bill of mental health when the study launched in 2004.

More than 170 participants were deemed to have COPD at the study's start. These patients were more likely to be men, older, and former or current smokers, the researchers found, and they also were more likely to have coronary artery disease or high blood pressure.

Tests conducted every 15 months during an average follow-up of five years revealed that 370 patients went on to develop some [mental impairment](#).

Memory problems were a factor for about 62 percent of that group, but investigators found no evidence that COPD raised the risk for developing this "amnesic" type of impairment.

They determined, however, that a COPD diagnosis was linked with an 83 percent higher risk for developing non-amnesic [mental decline](#), which accounted for more than a quarter of the cases of reduced mental functioning.

What's more, the longer a patient had COPD, the greater their risk for this type of decline. Those who had COPD for five years or more were

found to face a 2.5 times greater risk for developing attention and problem-solving problems without memory loss.

Going forward, Mielke said the researchers will seek to better understand the exact ways in which COPD elevates risk of mental impairment.

The ways in which COPD might affect mental functioning are probably complex and varied, noted Dr. Jonathan Samet, chair of the department of preventive medicine at the Keck School of Medicine at the University of Southern California.

As COPD progresses, "oxygen and gas exchange becomes more and more compromised, so that at the more severe end of the spectrum you see people who are on oxygen (supplementation) all of the time," Samet said. "The presence of COPD might imply that the brain is just not getting as much oxygen as needed. And the damage this study is seeing could occur through that route."

Many people with COPD report sleep difficulties, which could perhaps worsen mental functioning, he added.

Smoking's role must be considered, too, since it is a risk factor for both COPD and reduced mental functioning, Samet pointed out.

"Smoking, which causes COPD, is also a tremendous cause of inflammation," Samet said. "And there's a lot of speculation that inflammation may play a significant role in mild cognitive impairment risk."

For now, Mielke said, clinicians should be vigilant about identifying COPD among seniors, in order to quickly intervene and perhaps lower the risk for mental difficulties.

"It is important to aggressively treat COPD early in an effort to prevent or delay the onset of [mild cognitive impairment]," she said. "It is also important to regularly assess cognitive function among people who have COPD."

People with COPD, the third leading cause of death in the United States, find breathing and everyday activities increasingly difficult as the disease progresses. Each year, COPD kills almost 134,000 people in the United States, according to the American Lung Association.

More information: For more information on COPD, visit the [U.S. National Heart, Lung, and Blood Institute](#).

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