

# More than 40 percent of women with asthma may develop COPD, but risk may be reduced

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More than 4 in 10 women with asthma may go on to develop chronic obstructive pulmonary disease (COPD). Credit: ATS

More than 4 in 10 women with asthma may go on to develop chronic obstructive pulmonary disease (COPD), according to a study conducted

in Ontario, Canada, and published online in the *Annals of the American Thoracic Society*.

In "Asthma and COPD Overlap in Women: Incidence and Risk Factors," Teresa To, Ph.D., and coauthors report that of the 4,051 [women](#) with [asthma](#) included in their study, 1,701, or 42 percent, developed COPD. On average, the women were followed for about 14 years after being diagnosed with asthma.

The researchers examined [risk factors](#) for developing asthma and COPD overlap syndrome, known as ACOS. Those who develop ACOS experience increased exacerbations and hospitalizations and have a lower quality of life, compared to those who have asthma or COPD alone.

"Previous studies have found an alarming rise in ACOS in women in recent years and that the mortality rate from ACOS was higher in women than men," said Dr. To, a professor in the Graduate School of Public Health at the University of Toronto in Canada. "We urgently need to identify and quantify risk factors associated with ACOS in women to improve their health and save lives."

The authors report that individual risk factors played a more significant role in the development of ACOS than exposure to fine particulate matter, a major air pollutant that because of its microscopic size penetrates deep into the lungs.

Women who had a more than five-pack-year smoking history, meaning they had smoked more than the equivalent of a pack of cigarettes a day for five years, were much more likely to develop ACOS than those who smoked fewer cigarettes or never smoked.

However, ACOS did not affect only those who smoke: 38 percent of the women who developed ACOS in the study had never smoked.

In addition to smoking, the study identified obesity, rural residence, lower education levels and unemployment as significant risk factors for ACOS. The authors speculate that these factors indicative of low socioeconomic status may result in suboptimal access to care, under-treatment of asthma and poor compliance to medications, all of which lead to more frequent asthma attacks. These attacks in turn may lead to airway remodeling that increases the chances of developing ACOS.

The researchers noted that they lacked the data to investigate this association directly. Study limitations also include not having information about exposure to second-hand smoke and exposure to air pollution over the entire time the women were followed.

The authors wrote that they were encouraged by the fact that most of the risk factors identified in their study were modifiable.

"The adverse impact of smoking and obesity on health may be even worse in those who are already living with asthma or COPD," said Dr. To, who is also senior scientist, Child Health Evaluative Sciences, at The Hospital for Sick Children (SickKids). "Identifying modifiable risk factors in the progression from asthma to COPD is an essential first step in developing prevention strategies that lead to a healthy, active lifestyle."

**More information:** [www.thoracic.org/about/newsroom/women-and-acos.pdf](http://www.thoracic.org/about/newsroom/women-and-acos.pdf)

Provided by American Thoracic Society

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