

Women more susceptible to harmful effects of smoking

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Women may be more susceptible to the lung damaging effects of smoking than men, according to new research by Inga-Cecilie Soerheim, M.D., and her colleagues from Channing Laboratory, Brigham and Women's Hospital and University of Bergen, Norway. They analyzed data from a Norwegian case-control study including 954 subjects with chronic obstructive pulmonary disease (COPD) and 955 controls. All were current- or ex-smokers, and the COPD subjects had moderate or severe COPD.

"Overall our analysis indicated that [women](#) may be more vulnerable to the effects of smoking, which is something previously suspected but not proven," said Dr. Soerheim.

The study results will be presented on May 18 at the 105th International Conference of the American Thoracic Society in San Diego.

Examining the total study sample, there were no gender differences with respect to [lung function](#) (FEV1) and COPD severity, but the women were on average younger and had smoked significantly less than men.

To explore these differences further, they also analyzed two subgroups of the study sample: COPD subjects under the age of 60 (early onset group) and COPD subjects with less than 20 pack-years of smoking (low exposure group). In both subgroups, women had more severe disease and greater impairment of lung function than men.

"This means that female smokers in our study experienced reduced lung function at a lower level of smoking exposure and at an earlier age than men," said Dr. Soerheim.

It has long been suspected that the effect of smoking on lung function may be modified by gender. Interaction analysis confirmed that being female represents a higher risk of reduced lung

function and severe COPD, but this gender effect was most pronounced when the level of smoking exposure was low.

"The gender difference in COPD susceptibility seems to be most important when smoking exposure is low. Women may tolerate small amounts of tobacco worse than men," Dr. Soerheim explained.

According to Dr. Soerheim, the reason why women may be more susceptible to the effects of cigarette smoke is still unknown, but there are several possible explanations: "Women have smaller airways; therefore each cigarette may do more harm. Also, there are gender differences in the metabolism of cigarette smoke. Genes and hormones could also be important."

"Many people believe that their own [smoking](#) is too limited to be harmful—that a few cigarettes a day represent a minimal risk. However, in the low exposure group in this study, half of the women actually had severe COPD. Clearly, there is no such thing as a safe exposure to [cigarette smoke](#). Our findings suggest that this is particularly true for female smokers," concluded Dawn DeMeo, M.D., M.P.H., of Channing Laboratory, Brigham and Women's Hospital, the senior author of the study.

Source: American Thoracic Society ([news](#) : [web](#))

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