

Lung cancer mortality rates among women projected to increase by over 40 percent by 2030

August 1 2018

The global age-standardized lung cancer mortality rate among women is projected to increase by 43 percent from 2015 to 2030, according to an analysis of data from 52 countries. The global age-standardized breast cancer mortality rate is projected to decrease by 9 percent in the same time frame.

The study is published in *Cancer Research*, a journal of the American Association for Cancer Research, by Jose M. Martínez-Sánchez, Ph.D., MPH, BSc, associate professor and director of the Department of Public Health, Epidemiology and Biostatistics at Universitat Internacional de Catalunya (UIC Barcelona)

"While we have made great strides in reducing [breast cancer mortality](#) globally, lung cancer mortality rates among women are on the rise worldwide," said Martínez-Sánchez. "If we do not implement measures to reduce smoking behaviors in this population, lung cancer mortality will continue to increase throughout the world."

While previous work has focused on projections in lung and [breast](#) cancer mortality among women in a single country or continent, few studies have estimated trends in mortality caused by these two common cancers on a global scale, noted Martínez-Sánchez.

In this study, Martínez-Sánchez and colleagues analyzed breast and

female lung cancer mortality data from the World Health Organization (WHO) Mortality Database from 2008 to 2014. For inclusion in the study, countries must have reported data for at least four years between 2008 and 2014 and must have a population greater than 1 million. Fifty-two countries fulfilled these criteria: 29 from Europe; 14 from the Americas; seven from Asia; and two from Oceania. Lung and breast cancer age-standardized mortality rates in women, reported as per 100,000 person years, were calculated for each country based on the WHO World Standard Population, which allows for the comparison of countries with different age distributions, thereby eliminating age as a confounding variable in the projected rates.

Globally, among women, the mortality rate for lung cancer is projected to increase from 11.2 in 2015 to 16.0 in 2030; the highest lung cancer mortality rates in 2030 are projected in Europe and Oceania, while the lowest lung cancer mortality rates in 2030 are projected in America and Asia. Only Oceania is predicted to see a decrease in lung cancer mortality, which is projected to fall from 17.8 in 2015 to 17.6 in 2030.

"Different timelines have been observed in the tobacco epidemic across the globe," said Martínez-Sánchez. "This is because it was socially acceptable for women to smoke in the European and Oceanic countries included in our study many years before this habit was commonplace in America and Asia, which reflects why we are seeing higher lung cancer mortality rates in these countries."

Globally, the mortality rate for breast cancer is projected to decrease from 16.1 in 2015 to 14.7 in 2030. The highest breast cancer mortality rate is predicted in Europe with a decreasing trend overall, while the lowest breast cancer mortality rate is predicted in Asia with an increasing trend overall.

"Breast cancer is associated with many lifestyle factors," Martínez-

Sánchez explained. "We are seeing an increase in breast cancer mortality in Asia because this culture is adapting a Westernized lifestyle, which often leads to obesity and increased alcohol intake, both of which can lead to breast cancer. On the other hand, we are witnessing a decrease in breast cancer mortality in Europe, which may be related to the awareness of breast cancer among this population, leading to active participation in screening programs and the improvement of treatments."

Compared to middle-income countries, high-income countries have the highest projected age-standardized mortality rates for both lung and breast cancer in 2030. However, high-income countries are more likely to have decreasing breast cancer mortality rates. Furthermore, the first to witness lung cancer mortality rates surpass breast [cancer mortality rates](#) are mostly developed countries, noted Martínez-Sánchez.

"This research is particularly important because it provides evidence for health professionals and policymakers to decide on global strategies to reduce the social, economic, and health impacts of lung cancer among women in the future," said Martínez-Sánchez.

Limitations of the study include the assumption that recent trends in lung and breast [cancer](#) mortality will continue for the next two decades; however, certain habits, such as switching from conventional cigarettes to electronic cigarettes may alter [lung cancer mortality](#) trends, Martínez-Sánchez said. Future screening technology and therapeutics may lower [mortality](#) rates, he added. Additionally, due to small population size and lack of data, no countries from Africa were included in this study.

This study was sponsored by the Ministry of Universities and Research of the Government of Catalonia. Martínez-Sánchez declares no conflict of interest.

Provided by American Association for Cancer Research

Citation: Lung cancer mortality rates among women projected to increase by over 40 percent by 2030 (2018, August 1) retrieved 26 April 2024 from

<https://medicalxpress.com/news/2018-08-lung-cancer-mortality-women-percent.html>

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