

Science

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## Linking increasing air pollution to rise of type of lung cancer



An international team of scientists, led by NTU Singapore, has linked increased air pollution to an uptick in cases of lung adenocarcinoma (LADC) worldwide. The same study also concluded an overall lower consumption of tobacco worldwide is statistically linked to less people contracting lung squamous cell carcinoma (LSCC).

Lung adenocarcinoma is a type of cancer for which research strongly suggests that genetic, environmental, and lifestyle factors play a part, while lung squamous cell carcinoma is often linked to a history of smoking.

This study, done in collaboration between NTU and the Chinese University of Hong Kong, showed that a 0.1 micrograms per cubic metre ( $\mu\text{g}/\text{m}^3$ ) increment of black carbon, also known as soot, in the Earth's atmosphere, is associated with a 12 per cent increase in LADC incidence globally.

Black carbon is a pollutant that is classified as under PM2.5, and the research team found that it has increased globally by 3.6  $\mu\text{g}/\text{m}^3$  yearly from 1990 to 2012.

Meanwhile, a one per cent decline of smoking prevalence was associated with a nine per cent drop in LSCC incidence globally. The number of smokers worldwide decreased by 0.26 per cent a year, cumulatively falling by nearly six per cent from 1990 to 2012.

Lung cancer remains the leading cause of cancer with an estimated 1.8 million deaths in 2020, according to CA: A Cancer Journal for Clinicians. Global statistics have highlighted the trends of lung cancers but understanding what may be causing them has been unclear, until the NTU-led study, which has associated the incidence of the cancers to tobacco consumption and air pollution.

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