



AIR POLLUTION AND HEALTH FACTS & MYTHS



MYTH: THE NUMBERS OF DEATHS CAUSED BY EXPOSURE TO AIR POLLUTION ARE MISCALCULATED

FACT: The methods used to calculate the number of deaths attributed to exposure to air pollution are reputable and reliable. They are currently used by institutions such as the World Health Organization, the European Environment Agency, and by the Institute for Health Metrics and Evaluation, which are responsible for the Global Burden of Disease Project. Regardless of the method used to calculate the numbers, any number of deaths and years of healthy-life lost that results from exposure to air pollution is unacceptable because it is avoidable.

MYTH: LEVELS OF NITROGEN OXIDES (NO₂) AND PARTICULATE MATTER (PM) IN THE AIR ARE HARMLESS AT TODAY'S CONCENTRATIONS



FACT: This is not true. Many studies have shown that persistent daily and yearly exposure to these pollutants at today's concentrations is linked to: increased hospital admissions for lung or heart conditions; an increased risk of developing a lung or heart related disease; an increased risk of developing diabetes, and premature death. Exposure to pollutants is especially harmful to people who already have a lung condition, such as asthma and Chronic Obstructive Pulmonary Disease (COPD), among others.



MYTH: THE NITROGEN DIOXIDE LIMITS IN THE US ARE OVER TWICE AS HIGH, SO NITROGEN DIOXIDE CANNOT BE ALL THAT BAD

FACT: The nitrogen dioxide limit in the US (100 µg/m³) is considerably higher than the limit in the EU (40µg/m³), but the US has much stricter regulations on emissions, i.e., the level of nitrogen oxides in vehicle exhaust. Furthermore, the US has adopted much stricter limit values on particulate matter at just 12 µg/m³ versus the EU's limit of 25 µg/m³, which thereby protects the American population more effectively.

MYTH: IT DOES NOT MATTER IF LIMIT VALUES FOR AIR POLLUTION ARE EXCEEDED AS LONG AS AVERAGE MEASUREMENTS ARE OK



FACT: There is a risk of harm to human health wherever and whenever the limit values are exceeded, and there are even risks to human health when people are exposed to air pollution at levels that are far below the current limit values. Appropriate measures must be taken to ensure that air pollution values do not exceed the recommended limits, in order to prevent harmful effects to human health.



MYTH: EPIDEMIOLOGY STUDIES ARE WEAK AS THEY RELY ON CORRELATES AND FAIL TO TAKE OTHER RISK FACTORS INTO ACCOUNT, THEREFORE RESULTING IN A FAR TOO HIGH BURDEN OF DISEASE

FACT: This is not true. Epidemiological studies provide high-quality measures of the spread of disease and health conditions across large populations, taking other potential health risk factors into account, including smoking, physical inactivity, nutrition, education, income and more. These studies also do not just compare people from urban centres with those living in the countryside, as they provide comparisons for people who are exposed to different levels of air pollution from within the same cities.



MYTH: THE HEALTH EFFECTS OF PARTICULATE MATTER ARE EXAGGERATED

FACT: The health effects of exposure to particulate matter are not exaggerated, instead they tend to be underestimated. Many toxicological and epidemiological studies show that particulate matter causes inflammatory reactions in the lungs and entire body, promotes blood clotting, causes cardiac arrhythmia, increases atherosclerosis and alters lipid metabolism. In addition, particulate matter can penetrate into the brain and can impair foetal development. Those same biological changes are well known from tobacco smoke and can be seen in active and passive smokers, and the same diseases are caused, including heart attacks, strokes, respiratory diseases and lung cancer.



MYTH: SMOKING IS WAY MORE HARMFUL THAN AIR POLLUTION

FACT: Cigarette smoking and exposure to air pollution have very different patterns of exposure; smoking involves intense exposure followed by breaks between cigarettes. Air pollution, on the other hand, causes persistent daily and yearly exposure without interruption. In principle, even though it can be incredibly difficult, we can control our smoking and quit on our own initiative whereas air pollution cannot, or only with great difficulty, be avoided.

ABOUT

ERS

The European Respiratory Society (ERS) is an international organisation that brings together physicians, healthcare professionals and other experts working in the field of respiratory medicine. The mission of ERS is to promote lung health in order to alleviate suffering from respiratory diseases and drive standards for respiratory medicine globally through science, education and advocacy.

ERS Environment and Health Committee supports strengthening limits for air pollution, stricter enforcement of EU legislation and notes the need for further research to understand fully the impact of particular factors on human health.

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