

# Regular exercise, even in polluted areas, can lower risk of death

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Regular exercise, even performed in areas with air pollution, can reduce the risk of death from natural causes, according to new research in *CMAJ* (*Canadian Medical Association Journal*).

"Habitual exercise reduces the risk of death regardless of exposure to [air pollution](#), and air pollution generally increases the risk of death regardless of habitual exercise. Thus, habitual exercise should be promoted as a health improvement strategy, even for people residing in relatively polluted areas," writes Dr. Xiang Qian Lao, Jockey Club School of Public Health and Primary Care, the Chinese University of Hong Kong, Hong Kong, SAR, China, with coauthors.

They conducted a large study, over 15 years from 2001 to 2016, with 384 130 adults in Taiwan, seeking to understand the effects of regular exercise and long-term exposure to fine particle matter on the risk of death from [natural causes](#). The researchers found that a higher level of regular exercise compared with inactivity was beneficial, even in polluted areas, although less exposure to pollution was better.

"We found that a high level of habitual exercise and a low level of exposure to air pollution was associated with lower risk of death from natural causes, whereas a low level of habitual exercise and a high level of exposure was associated with higher risk of death," write the authors.

This study adds to several other smaller studies conducted in the United States, Denmark and Hong Kong that found that regular exercise, even in polluted areas, is beneficial.

The authors say that "further studies in areas with more severe air pollution are required to examine the applicability of our findings. Our study reinforces the importance of air pollution mitigation, such as to reduce the harmful effects of air pollution and maximize the beneficial effects of [regular exercise](#)."

In a related commentary, authors from the Sydney School of Public Health, The University of Sydney, Camperdown, Australia, argue that physical inactivity and air pollution should be considered as "syndemics" as together they influence behavior and health outcomes. Recommendations for safe exercise in polluted areas, such as indoor [exercise](#), and avoiding walking and biking on congested roads, can contribute to inequalities as people of lower socioeconomic status often lack these options.

"[R]isk reduction approaches that do not address the root causes of noncommunicable diseases could exacerbate health inequalities," write Drs. Ding and Elbarbary. "People should not be forced to choose between physical activity and air pollution."

"Both physical inactivity and air pollution have detrimental effects on health. Staying active should not be at the cost of compromised health from air [pollution](#). Addressing both major public health issues through synergistic, upstream, system-level

approaches would lead to long-term health benefits for humans and the planet," write the commentary authors.

**More information:** Cui Guo et al, Effects of air pollution and habitual exercise on the risk of death: a longitudinal cohort study, *Canadian Medical Association Journal* (2021). [DOI: 10.1503/cmaj.202729](https://doi.org/10.1503/cmaj.202729)

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