Leading cardiovascular organizations call for urgent action to reduce air pollution

January 28 2021

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Air pollution is a key risk factor for cardiovascular disease, and a major contributor to the global burden of disease. Long-term exposure to air pollution has also been linked to an increased risk of death from

COVID-19. This dangerous "triple threat" of air pollution, COVID-19 and cardiovascular disease should be taken seriously, warn major health authorities.

Four leading cardiovascular organizations—the World Heart Federation (WHF), American College of Cardiology (ACC), American Heart Association (AHA) and European Society of Cardiology (ESC) – today released a joint statement urging the medical community and health authorities to mitigate the impact of air pollution on people's health.

In 2019, an estimated 6.7 million deaths, or 12 percent of all deaths worldwide, were attributable to outdoor or household air pollution. As many as half of these were due to cardiovascular disease. Air pollution also increases the risk of heart attack, stroke, diabetes and respiratory diseases, which are known to raise a person's risk of experiencing some of the more severe consequences of COVID-19.

"Even before the COVID-19 pandemic, air pollution was an issue of growing concern due to its impact on people's health, although it was frequently overlooked as a risk factor for cardiovascular disease. COVID-19 has brought a new, deadly factor to the equation, and the time has come for the health community to speak up and take action," said Michael Brauer, Chair of the World Heart Federation Air Pollution Expert Group and co-author of the statement.

The statement calls for structural actions to reduce emissions of air pollutants and harmful exposure. It also highlights the important role that healthcare providers play in preventing illnesses related to air pollution, including:

- Advocating for air pollution mitigation as a health measure, further research on air quality and its impact on CVD, and interventions to reduce air pollution and its effect on NCDs

- Providing patients with personal measures to reduce exposure, such as room air filtration systems
- Integrating air pollution into disease management approaches, for example through the use of air quality indices
- Participating in the development of guidelines on air pollution and CVD
- Supporting ministries of environment, energy, and transportation in their mitigation efforts
- Working to educate and raise awareness on the cardiovascular benefits of clean air
- Collaborating with senior decision-makers in national, regional, and global governmental institutions to make air pollution related heart disease a priority

The statement will be published simultaneously in the flagship journals of all four organizations: the *Journal of the American College of Cardiology* (JACC), the *Journal of the American Heart Association* (JAHA), the *European Heart Journal* (EHJ) and *Global Heart*.

"Air pollution is one of the most underestimated causes of heart disease and stroke," said Professor Stephan Achenbach, President of the European Society of Cardiology. "More research is urgently required to identify susceptible populations and to determine the optimal methods of improving air quality to benefit cardiovascular health. Air pollution needs to be recognized as a major modifiable risk factor in the prevention and management of cardiovascular disease, and measures to reduce its detrimental short-term and long-term influence on cardiovascular health, potentially over generations, are urgently required."

Provided by European Society of Cardiology