

- Heart diseases

Air pollution affects heart health

New Straits Times · 13 May 2024 · 11 · By ETX Daily Up

BREATHING polluted air could affect mental health and by extension increase the risk of death from cardiovascular disease, according to a new study involving more than 300 million people living in the United States.



Is there anywhere in the world where people breathe healthy, pollution-free air? This seems doubtful, according to the World Health Organisation (WHO), which estimates that 99 per cent of the global population “breathe air that exceeds WHO guideline limits and contains high levels of pollutants”.

The global health authority estimates that ambient (outdoor) air pollution caused 4.2 million premature deaths worldwide in 2019, and that the “combined effects of ambient air pollution and household air pollution are associated with 6.7 million premature deaths annually”. The majority of these deaths are associated with cardiovascular disease.

American researchers have been investigating the subject, conducting a study across over 3,000 counties in the US, with a total population of 315 million. Published by the European Society of Cardiology (ESC) on the occasion of its scientific congress, ESC Preventive Cardiology 2024, this research establishes a link between air pollution, and the risk of stress and depression, which could significantly increase the risk of death from cardiovascular disease in people aged under 65.

“Our study indicates that the air we breathe affects our mental wellbeing, which in turn impacts heart health,” explains Dr Shady Abohashem of Harvard Medical School, Boston, USA.

While most scientific studies attempt to assess the impact of air pollution on physical health, this one initially focused on a potential association between pollution and mental health.

Then, secondly, on the influence this could have on the risk of cardiovascular disease. To do this, the researchers focused on particles with a diameter of less than 2.5 micrometres, known as fine particles. Whether from vehicle exhausts or power plant combustion, these particles are considered harmful to respiratory and cardiovascular health.

HARMFUL EFFECT ON MENTAL HEALTH

The scientists collected various types of data from the Centres for Disease Control and Prevention for 3,047 US counties, including annual levels of fine particulate matter, which were classified according to WHO recommendations, and the average number of days on which county residents experienced mental health issues.

As a result, the counties most affected by ambient air pollution were also those reporting the most days on which the population experienced mental health issues (+10 per cent).

The researchers also point out that the link between poor mental health and premature cardiovascular mortality was higher in the most polluted counties. In detail, higher levels of mental health disorders were linked to a three-fold increase in premature cardiovascular mortality in counties with the most polluted air.

This finding has prompted the scientists to call for strategies to address not only outdoor air pollution, but also the mental health of citizens.

“Our results reveal a dual threat from air pollution: it not only worsens mental health, but also significantly amplifies the risk of heart-related deaths associated with poor mental health.

“Public health strategies are urgently needed to address both air quality and mental wellbeing in order to preserve cardiovascular health,” concludes the study’s lead author Abohashem.