Microplastics Linked To High Blood Pressure, Diabetes, Stroke

NEWS ARTICLE

4/1/2025


Adobe

TUESDAY, April 1, 2025 (HealthDay News) -- Microplastics appear to be contributing to chronic diseases in shoreline areas of the United States, a new study suggests.

High blood pressure, diabetes and **stroke** rates are higher in coastal or lakefront areas with greater concentrations of microplastics in the environment, researchers reported at a meeting of the American College of Cardiology (ACC).

The results also suggested a dose relationship, where higher concentrations of microplastics pollution are associated with more chronic disease, researchers said.

“This study provides initial evidence that microplastics exposure has an impact on cardiovascular health, especially chronic, noncommunicable conditions like high blood pressure, diabetes and stroke," lead investigator **Sai Rahul Ponnana**, a research data scientist at Case Western Reserve School of Medicine in Cleveland, said in a news release.

Microplastics are tiny plastic particles as small as 1 nanometer; by comparison, a **strand** of human hair is about 80,000 nanometers wide.

These particles are released as larger pieces of plastic break down, and can come from food and beverage packaging, consumer products and building materials, researchers said in background notes.

People can be exposed to microplastics in the water they drink, the food they eat and the air they breathe.

For this study, researchers linked U.S. Centers for Disease Control and Prevention (CDC) data on chronic illness rates with federal data on microplastics concentrations in the sediment along coastal and lakeshore areas in 555 census tracts. The data ran from 2015 to 2019.

Microplastics ranked among the top risk factors associated with chronic illness, researchers found. They co[illegible]red 154 factors, including income, employment rate and air pollution.

"When we included 154 different socioeconomic and environmental features in our analysis, we didn't expect microplastics to rank in the top 10 for predicting chronic noncommunicable disease prevalence," Ponnana said.

However, researchers noted that the study does not prove a direct cause-and-effect relationship between microplastics and chronic illness. More studies are needed to prove a concrete link and rule out other possible explanations.

More research is also needed to determine the amount of exposure to microplastics that would have an impact on a person's health, researchers added.

In the meantime, people can help minimize microplastics exposure by reducing how much plastic they throw away.

"The environment plays a very important role in our health, especially cardiovascular health," Ponnana said. "As a result, taking care of our environment means taking care of ourselves."

The findings were presented Monday at the ACC's meeting in Chicago. Findings presented at medical meetings should be considered preliminary until published in a peer-reviewed journal.

More information

The U.S. Environmental Protection Agency has more on **microplastics**.

SOURCE: American College of Cardiology, news release, March 25, 2025

Copyright © 2025 **HealthDay**. All rights reserved.

Related Topics

Blood Pressure

Diabetes: Misc.

Heart/Stroke-Related: Stroke