Foods That May Help Protect Against Fine Particulate Matter (Air Pollution) Transcript

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Diet and Air Pollution: Brain Health

"Foods That May Help Protect Against Fine Particulate Matter (Air Pollution)" Diet contributes to almost as many deaths as air pollution- more if you consider the role of diet in high blood pressure.

Fortunately, we may be able to bring the power of diet to combat the effects of polluted air. Here's some food for thought: What do we know about the relationship between particle exposure, dietary patterns, and the brain?

In a study that assessed long-term exposure in the U. S. to fine particle air pollution and diet, air pollution exposure was associated with lower brain white matter volume (an indicator of brain aging) in women who ate less consistently with the so-called MIND-like diet.

Plant-Based Diets and Lower Pollution Risk

A diet similar to a Mediterranean diet with bonus points for regularly eating brain-healthy foods like greens, beans, whole grains, and berries, plus points for not eating the brain-unhealthy foods like butter, red meat, and fried foods.

The same was found for cognitive function; the lowest plant-based eaters had a 68% increased risk of developing poor cognitive function, suggesting plant-based dietary patterns may reduce the detrimental impacts of fine particulate matter.

High vegetable eaters may also be able to reduce their risk of death. In a prospective study that followed almost 400,000 people, the lowest veggie eaters who were exposed to the most fine particulate matter had a 17% higher mortality risk.

Those exposed to high levels of nitrogen dioxide had about a 22% higher risk. How about among the highest veggie eaters? No significant increased risk.

Antioxidants, Detox Enzymes, and Cruciferous Vegetables

All the antioxidants like carotenoids and flavonoids in plant foods can protect the brain and ameliorate some of the long-term adverse effects of air pollution exposure by not only reducing oxidative stress but also the inflammation found in the development of so many chronic diseases.

A healthy diet holds antioxidant and anti-inflammatory powers. Some food can even enhance our detoxification pathways. Cruciferous vegetables can boost the activity of the detoxifying enzymes in our liver such that heavy broccoli eaters have to drink more coffee to get the same caffeine buzz.

We also have detox enzymes lining our airways. Studies show that people born with less effective detox enzymes have an exaggerated allergic response to diesel exhaust, suggesting these enzymes actively combat the inflammation caused by pollutants in the air.

And indeed, cruciferous veggies can do just that, as Dr. Greger has highlighted.

Broccoli Sprouts vs Supplements

The stars of the show are broccoli sprouts for their ability to detoxify carcinogenic compounds like benzene in outdoor air pollution. What if you don't like the taste of cruciferous veggies but still want their benefits?

Dr. Greger has previously covered BroccoMax, a leading commercially available broccoli supplement that was put

to the test. In the end, the supplement hardly worked at all, while the sprouts boosted blood levels about eight times higher and for about eight times cheaper.

Newer enzyme-treated broccoli sprout extract supplements claim comparable bioavailability, but they, too, were found to pale in comparison to the real thing.