

People with serious gum disease have lower levels of antioxidants in their mouths than those without the condition.

The findings of a new study suggest that one way to protect people with serious gum disease would be to recommend they boost their intake of antioxidants, according to author Dr. Iain Chapple of the University of Birmingham.

Antioxidants protect against a host of health problems.

"It may be that antioxidant supplementation could help," he said.

In the study, Chapple and his team tested gingival crevicular fluid (GCF), a fluid that seeps from the crevice under the gums into the mouth, in 10 patients with serious gum disease and 10 patients with healthy gums. In the healthy participants, the researchers found high levels of antioxidants. However, those with serious gum disease had substantially lower levels of the antioxidants in both GCF and in their bloodstream when compared to their peers with healthy gums.

The findings are published in the recent issue of *Journal of Clinical Pathology: Molecular Pathology*.

Chapple explained that one antioxidant that appears to be important in GCF may also play an important role in the fluid in the lungs and in samples from the cervix. This suggests that these surfaces need extra protection from environmental damage caused by particles known as free radicals, and rely on antioxidant-rich fluid for help, he said.

But why do people with serious gum disease appear to have less protection from free radicals? Chapple suggested that these patients may naturally produce less antioxidants than others, or, alternatively, that they have more free radicals than others, so more of their antioxidants get used to fight them off. "Or it could be a combination of the two," he said in an interview.

Gum disease is found in between 10% and 15% of people across the globe. It results from a buildup of bacteria-containing plaque, which can lead to inflammation and, eventually, tooth loss.

Chapple speculated that gum disease patients may eat a less antioxidant-rich diet than others, or produce less antioxidants than healthy people. "It could also be that the oxygen radicals produced during periodontal inflammation 'spill out' into the blood stream and use up peripheral antioxidants from the blood stream," he added.

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