

Periodontal disease associated with increased breast cancer risk in postmenopausal women

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Postmenopausal women with periodontal disease were more likely to develop breast cancer than women who did not have the chronic inflammatory disease. A history of smoking significantly affected the women's risk.

Jo L. Freudenheim, PhD, distinguished professor in the Department of Epidemiology and Environmental Health in the University at Buffalo's School of Public Health and Health Professions and colleagues publish these results in *Cancer Epidemiology, Biomarkers & Prevention*, a journal of the American Association for Cancer Research.

Periodontal disease is a common condition that has been associated with heart disease, stroke, and diabetes. Previous research has found links between [periodontal disease](#) and oral, esophageal, head and neck, pancreatic, and lung cancers, so the researchers wanted to see if there was any relationship with breast cancer.

Freudenheim and colleagues monitored 73,737 [postmenopausal women](#) enrolled in the Women's Health Initiative Observational Study, none of whom had previous breast cancer. Periodontal disease was reported in 26.1 percent of the women. Because prior studies have shown that the effects of periodontal disease vary depending on whether a person smokes, researchers examined the associations stratified by smoking status.

After a mean follow-up time of 6.7 years, 2,124 women were diagnosed with breast cancer. The researchers found that among all women, the risk of breast cancer was 14 percent higher in women who had periodontal disease.

Among women who had quit smoking within the past 20 years, those with periodontal disease had a 36 percent higher risk of breast cancer. Women

who were smoking at the time of this study had a 32 percent higher risk if they had periodontal disease, but the association was not statistically significant. Those who had never smoked and had quit more than 20 years ago had a 6 percent and 8 percent increased risk, respectively, if they had periodontal disease.

"We know that the bacteria in the mouths of current and former smokers who quit recently are different from those in the mouths of non-smokers," Freudenheim explained. "One possible explanation for the link between periodontal disease and [breast cancer](#) is that those bacteria enter the body's circulation and ultimately affect breast tissue. However, further studies are needed to establish a causal link," Freudenheim said.

Study Limitations: Women self-reported their periodontal disease status, after being asked whether a dentist had ever told them they had it. Also, since the study focused on women who were already enrolled in a long-term national health study, they were more likely than the general population to be receiving regular medical and dental care, and were likely more health-conscious than the general population.

Provided by American Association for Cancer Research

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