



Dental Health and Overall Health — Understanding the Connection

ISSUE BRIEF

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KEY TAKEAWAYS



Untreated periodontal disease is linked to, among other chronic conditions, poor cardiovascular health.



There appears to be a bi-directional relationship between periodontitis and some systemic health conditions driven by the body's immune response to increased inflammation.



Studies suggest that proper management and treatment of periodontal disease has the potential to decrease medical costs and reduce hospital admissions related to chronic systemic diseases.



Dental care is integral to whole-person health and dental insurance helps provide that benefit.

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Background

Periodontal diseases are among the most common diseases in humans¹. The most prevalent form of periodontal disease is gingivitis, which is caused by bacteria in dental plaque, characterized by inflammation of the gums, and is reversible with good oral hygiene.² Periodontitis occurs when disease progresses and the gums pull away from the tooth, creating a space between the gum and tooth where bacteria can fester, multiply, and cause destruction of the gums, periodontal ligaments, and bone supporting the teeth. Treating periodontitis requires professional care. Observational studies continue to find potential associations between periodontitis and several systemic health conditions.³

One result of untreated periodontitis is increased inflammation and inflammatory products elsewhere in the body. This inflammation may adversely impact individuals managing conditions such as coronary artery disease (CAD)^{4, 5}, cerebral vascular disease (CVD)^{6, 7, 8} and type 2 diabetes (T2D)^{9, 10}. Some researchers¹¹ hypothesize that gum disease develops first and may promote heart disease through chronic infection and bacteria in the circulatory system, while others point out that atherosclerosis can begin in childhood and progress over many decades and may be worsened by the presence of inflammatory components from periodontal disease.¹²

The Link Between Periodontitis and Systemic Health Issues

Multiple literature reviews provide a well-documented association between the inflammatory and immune effects of periodontal disease and other systemic health conditions such as respiratory diseases, Alzheimer's, osteoporosis, psoriasis, rheumatoid arthritis and other conditions^{13, 14, 15}.

Additional studies suggest there is a potential association between periodontal inflammation and the incidence of certain cancers normally found in smokers. A large-scale study on a cohort of male health care professionals conclude that “periodontal disease was associated with a small, but significant, increase in overall cancer risk, which persisted in never-smokers.¹⁶” These findings encourage researchers to continue investigating other potential links between common systemic diseases and periodontitis.

Future Considerations and Cost Savings

Increasing attention to the spectrum of complications that can arise from untreated periodontal disease will further highlight the need for patients to maintain good oral hygiene, which includes seeing a dentist on a regular basis.

In a 2014 prospective cohort study, an analysis of insurance claims comparing medical costs and hospital admissions data found a significant reduction in total medical costs and reduced hospital admissions for patients with chronic diseases (CAD, CVD and T2D) who received treatment for periodontal disease.¹⁷ For example, the study cited the average annual cost of medical care for patients with T2D with untreated periodontal disease was \$7,056 and the costs associated with diabetics with treated periodontal disease was \$4,216. These figures equal a 40 percent savings and 40 percent fewer hospital admissions.^{18, 19}



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An additional study conducted in 2014 estimated there is a potential for the health care system to save \$102.6 million dollars a year if dentists perform chronic disease screenings in their offices.^{20, 21} These results suggest potential clinical significance for assessing and treating periodontal disease in the overall management of systemic chronic conditions.

Both physicians and dentists should be aware of the associations and potential implications for treatment when observing periodontal diseases and other systemic conditions. Because periodontal disease and the aforementioned chronic conditions are so widespread in the U.S. population, proper diagnosis and treatment of periodontal diseases offers great potential for

improving public health. It is important for the public and all health care providers to recognize and promote good oral health and preventive practices.

Regular dental checkups and strong referral relationships between physicians and dentists is important given the current understanding of the shared risks between oral and systemic diseases and conditions.

Good evidence exists that improved oral hygiene and frequent professional oral health care reduce the progression or occurrence of respiratory diseases among the high-risk elderly living in nursing homes, especially those in intensive care units.²²

Conclusion

Continued exploration and research into the potential links between oral and systemic health is worthy of the attention from health care providers and the public health community. Initial studies suggest there is a potential for reducing health care costs (lower hospital costs, reduced hospital admissions, overall health care system savings) from treating and preventing the progression of periodontal disease for patients with co-morbid chronic systemic health conditions.

Dental care is integral to whole-person health and dental insurance helps provide that benefit. There is an opportunity for oral health professionals to be part of an integrated health care team working to combat chronic diseases.²³ Oral health should not be viewed in a silo, and health care providers need to factor in oral health when treating patients with chronic systemic health conditions.



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Related Topic



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