



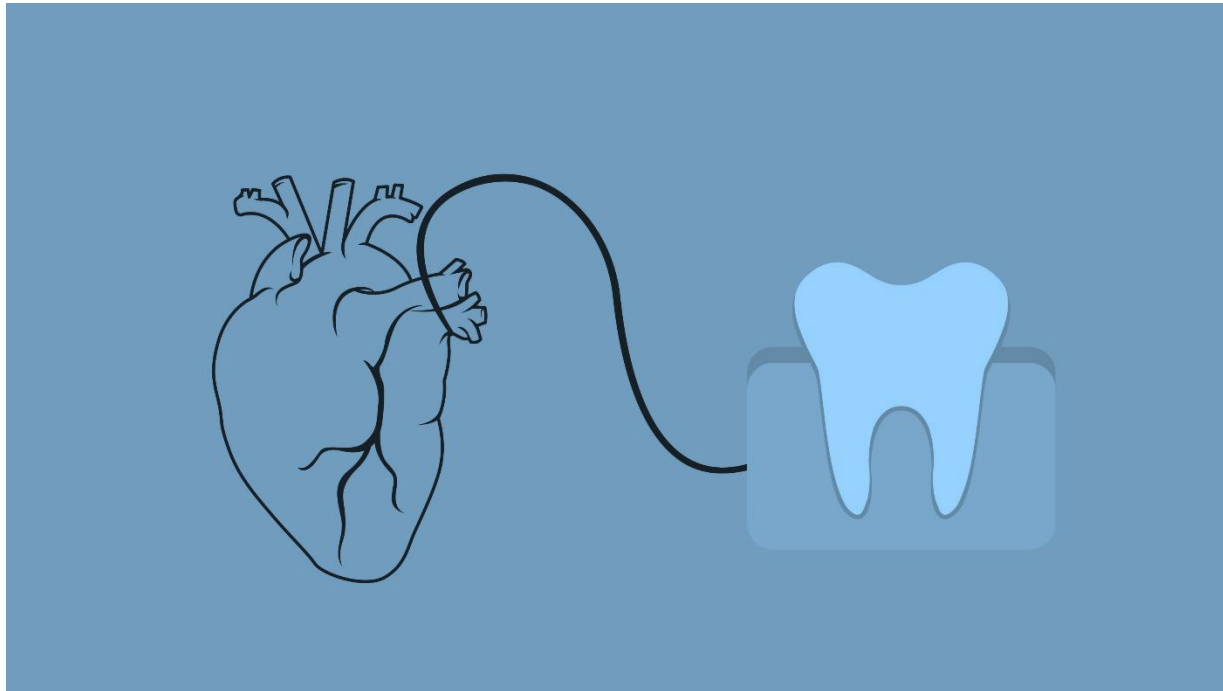
The Chronic Disease Connection to Oral Health

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Healthy People. **Healthy Communities.**

Periodontal Disease and Other Chronic Diseases



Chronic Disease Impact

- 6 in 10 Adults in the US have a chronic disease
- 4 in 10 Adults in the US have two or more chronic diseases
- Chronic diseases are the leading causes of death and disability and leading drivers of the Nation's 3.3 Trillion in Annual Health Care Costs

Periodontal Diseases

- Chronic inflammatory disease that affects the soft and hard structures that support the teeth.
- Affects 40-60% of adults
- Treating the disease must focus on reducing the level of inflammation in the mouth and body.



Primary Bacteria

- *Porphyromonas gingivalis*
 - Found during gingival and periodontal infections
- Found at low levels in 25% of healthy patients
- A recent study found that 100% of patients with cardiovascular disease had *P. gingivalis* arterial colonization

P. gingivalis

- Transient bacteremia of *P. gingivalis* can occur during common activities such as:
 - brushing
 - flossing
 - chewing
 - during dental procedures

Other Bacteria

- Principle periodontopathogenic bacteria
 - *Treponema denticola*
 - *Tannerella forsythia*
 - *Aggregatibacter actinomycetemcomitans*
 - *Fusobacterium nucleatum*
 - *Prevotella intermedia*
 - *Campylobacter rectus*
 - *Peptostreptococcus migros*

Periodontitis and Blood Pressure Study

- In the study, patients with severe periodontitis had systolic pressure that was, on average, 3 mmHg higher than those with good oral health
- The presence of periodontal disease widened the gap even further, up to 7 mmHg, among people with untreated hypertension, the study found.

Oral Health and Medication

- Study with 3,600 patients with high BP
- Healthier gums have lower BP and responded better to BP lowering medications
- Patients with periodontal disease were 20% less likely to reach healthy BP ranges



National Health and Nutrition Examination Survey 2009-2014 Results

“Patients with high blood pressure and the clinicians who care for them should be aware that good oral health may be just as important in controlling the condition as are several lifestyle interventions known to help control blood pressure, such as a low-salt diet, regular exercise and weight control.”

Diabetes Mellitus

- Affects 422 Million people worldwide
 - 8% of the world population
- 4-fold increase in disease prevalence from 1980-2014
- Principal systemic disease affecting periodontitis in terms of extent of population affected

Diabetes: Risk Factor

- Associated with significantly higher prevalence and severity of periodontitis
- Risk for periodontitis is increased threefold in diabetics
- Risk factor became apparent in 1990s

Periodontitis and Diabetes: Two-Way Relationship

There has recently been much emphasis on the two-way relationship between diabetes and periodontitis. That is, not only is diabetes a risk factor for periodontitis, but periodontitis could have a negative effect on glycemic control.

Diabetic Complications

- Correlated with the severity of Periodontitis:
 - Retinopathy
 - Diabetic Neuropathy
 - Proteinuria
 - Cardiovascular complications

Obesity

- Prevalence is 40% in adults
- Contributing factors include:
 - Excess caloric consumption
 - Sedentary lifestyles
 - Genetics
 - Medications
 - Diseases

Obesity and Periodontitis

- Obesity increases susceptibility to bacterial and viral infections
- 35% increased risk of developing periodontitis
- Risk higher among women

Pancreatic Cancer

- Study revealed that a history of periodontal disease is associated with increased risk in African American women
- Identified *p. gingivalis* to be positively associated with the development

Breast Cancer

- 1 in 8 women diagnosed- Most common cancer in women
- Women with periodontal disease 3 times more likely to develop breast cancer
- Could be triggered as a result of systemic inflammation that begins in infected gums

Other Cancer Links

- 49% more likely to develop kidney cancer
- 54% more likely to develop pancreatic cancer
- 30% more likely to develop blood cancers

Atherosclerosis

- Disease in which the inside of an artery narrows from build up of plaque
- P gingivalis found invading aortic cells
- Recent studies conclude that oral infections in childhood appear to be associated with the subclinical carotid atherosclerosis seen in adulthood.

Stroke

- Stroke is leading cause of long-term disability in western countries
- US- 795,000 people have strokes per year
- Periodontitis doubles risk of stroke in men, but not women

Rheumatoid Arthritis

- Affects 1-3% of population
- Causes progressive and irreversible damage to synovial-lined joints
- Double the risk of periodontal diseases
- Study found that RA developed more rapidly in patients with *p. gingivalis* induced inflammatory lesions

Reproductive Problems

- Periodontitis has been associated with multiple adverse reproductive outcomes:
 - Preterm birth
 - Low birth weight
 - Fetal growth restriction
 - Preeclampsia
 - Perinatal Mortality
- Subfertility and infertility

The Take Away...

- Our bodies including our mouths are an interconnected system.
- Health home importance
- Integration of oral health and chronic disease assessment and treatment is necessary for the joint management of people with periodontitis and other diseases





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