

# Association Between Cardiovascular Diseases and Oral Health

Some Oral diseases, especially dental caries and periodontal diseases, has spread a lot worldwide affecting approximately millions of people and the reason behind that is poor living conditions and low socioeconomic status. These current issues are not only resulting in gum diseases and tooth loss but there are also strongly related to cardiovascular diseases (CVDs). Studies proved that nearly half of the adults all over the world are suffering from periodontal disease[1], and among them 20% to 30% are at more risk of developing cardiovascular issues in future. [2] Comorbidities and chronic diseases can be aggravated by inflammation in the oral cavity and we are getting more and more evidences everyday which are proving that poor oral health is increasing the risk of cardiovascular issues.

Oyapero et al. reported that pathologies like diabetes, hypertension, and dyslipidemias especially low serum levels of HDL and increased serum levels of LDL are very much associated with lack of proper oral healthcare. [3] Furthermore, among patients over 35 with a raised BMI, increased waist circumference, and nicotine use, there is a direct link between poor oral health and cardiovascular risk factors. Additionally, these patients are more vulnerable to tooth loss and periodontitis.

Specifically, there is a direct link between hypertension and poor oral health. Studies show that individuals with hypertension are more likely to have fewer teeth, and those with cardiovascular diseases usually have 4.5 more missing teeth than those without the illness. The use of prosthetic replacements after tooth loss may serve as vectors for the spread of bacteria, which can cause inflammation throughout the body. Hypertension, endothelial dysfunction, and arterial stiffness may be the outcomes of this inflammation. Ghanem et al. claim that individuals with oral inflammation have higher-than-normal levels of inflammatory markers, such as C-reactive protein (CRP) and interleukin-6 (IL-6), which impair endothelial function and increase the risk of hypertension and atherosclerosis.[4] Porphyromonas gingivalis, a common pathogen in periodontitis, also contributes to the development of atherosclerotic plaques by upsetting the endothelium and causing tissue necrosis in the oral cavity. These findings highlight the critical relationship between dental and cardiovascular health.

In conclusion, the importance of maintaining good oral hygiene cannot be overstated, as it is crucial for preventing both dental diseases and cardiovascular issues. Because the inflammation caused by poor oral health can affect other organs and systems, public health policies that address oral hygiene are essential for reducing the risk of both oral diseases and cardiovascular diseases (CVDs). It is crucial to teach people from lower socioeconomic backgrounds the importance of oral health because studies show that they are 25% more likely to suffer from periodontal diseases. [5] In the long run, lowering the incidence of heart disease globally will be achieved through expanding access to dental care and incorporating dental evaluations into cardiovascular screenings.

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