Periodontitis is a chronic infection caused by predominantly Gram-negative bacteria that affect the supporting structures of the teeth and is present to a lesser or greater extent in the majority of adults. Periodontal disease is considered as an inflammatory disease and studies show that nutrition, in particular antioxidant nutrients, have an important role to play in the prevention and treatment of periodontal disease.

Antioxidant nutrients (vitamin C, carotenoids, tocopherols, flavonoids and polyphenolic compounds) play an important role in scavenging excess ROS thereby preventing tissue damage.

A positive relationship between low dietary vitamin C and periodontal disease has been demonstrated. Despite early studies showing no difference between plasma vitamin E in patients with and without periodontal disease more recent studies (in vitro) have shown vitamin E to have mitigating effects on indicators of gingival inflammation. Little work has been conducted in relation to carotenoids and periodontal disease, despite carotenoids being major scavengers of ROS. The most important dietary sources of antioxidant nutrients are fruits, vegetables and wholegrains, and in recognition of the important role that these foods play in the prevention of chronic diet-related diseases it is recommended to consume at least 400g per day of fruits and vegetables and three servings of wholegrains.