

ABSTRACT

## Water flossing for the management of gum disease

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Periodontitis (gum disease) affects half of the worldwide adult population (Petersen & Ogawa, 2012) and is caused by an exaggerated inflammatory response to dental plaque. Therefore, providing patients with effective tools to maintain good oral hygiene is vital. Toothbrushing, the most common method of oral home care, cannot clean deep under the gumline or reach areas between the teeth. Other tools, such as dental floss and interdental brushes, are commonly used. However, these tools cannot go deeper than 2.5 mm under the gumline and may be challenging for patients to use. In contrast, water flossers can reach areas between the teeth and penetrate, on average, as far as 68% of the depth of periodontal pockets over 7 mm (Eakle et al., 1986). Some studies show that oral irrigators reduce inflammation by changing the amount and microbial composition of dental plaque (Chaves et al., 1994), but the evidence has been inconclusive. This presentation will discuss a research project examining the effects of water flossing on gum health and the microbial composition of dental plaque and saliva. This will be a randomised controlled clinical trial investigating 141 patients with periodontitis. The participants will use different oral hygiene regimens for six months. Clinical signs of inflammation in the gums will be recorded at the baseline, three and six months of the study. The microbiologic changes in the dental plaque and saliva will be assessed using next-generation sequencing and real-time polymerase chain reaction techniques. The study results will contribute to the existing body of knowledge on the pathogenesis of periodontitis and the mechanisms of action of water flossers, as well as guide the future directions in technology development and support practitioners in the advice they provide to their clients.

### References

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