

ABSTRACT

Water Flossers: What We Know and What We Need to Know

Farzana Sarkisova

Keywords: Dental hygiene, dental plaque, gum disease, oral health, oral home care, oral irrigation devices, periodontitis

Water flossers are devices that clean teeth with a pressured stream of water. Recently, water flossing has been included in guidelines for managing gum disease and dental implant maintenance (Herrera et al., 2023; Sanz et al., 2020). However, despite being on the market for over 60 years, much remains unknown about the devices' effectiveness and mechanism of action. This presentation will discuss the results of a scoping review on water flossers.

Four databases and eight grey literature sources were searched for primary and secondary studies up to January 2024, with 275 sources included in the review (Sarkisova et al., 2024). Most studies were conducted in North America, with no trials originating in Oceania. Most studies enrolled adults with gingivitis (i.e., gum inflammation), and fewer recruited individuals with periodontitis (i.e., gum disease). No research has been conducted on flossers' effect on dental decay, and only one trial enrolled participants with peri-implantitis (i.e., infection around dental implants). Water flossers are safe when the manufacturers' recommendations are followed. They effectively reduce gum inflammation. However, there are differences in research designs and devices, making evidence of their plaque removal ability inconclusive. Plaque reduction has been reported in several trials with special needs populations. Water flossers appear to promote health-associated oral microorganisms, justifying further research in this area. Researchers also report high acceptance of water flossers, but no validated tools have been used to assess this.

Future trials need to investigate any effects of water flossing on dental decay, periodontitis, peri-implantitis, and in special needs populations. Aspects such as microbiological effects, patient-reported outcome measures, costs, and environmental impact of water flossing also require further evaluation. This comprehensive review analysed and synthesised evidence on water flossers and identified knowledge gaps to highlight the areas requiring further research.

References

- Herrera, D., Berglundh, T., Schwarz, F., Chapple, I., Jepsen, S., Sculean, A., Kebschull, M., Papapanou, P. N., Tonetti, M. S., Sanz, M., & EFP workshop participants and methodological consultant. (2023). Prevention and treatment of peri-implant diseases—The EFP S3 level clinical practice guideline. *Journal of Clinical Periodontology*, 50(Suppl 26), 4–76. <https://doi.org/10.1111/jcpe.13823>.
- Sanz, M., Herrera, D., Kebschull, M., Chapple, I., Jepsen, S., Berglundh, T., Sculean, A., & Tonetti, M. S. (2020). Treatment of stage I–III periodontitis—The EFP S3 level clinical practice guideline. *Journal of Clinical Periodontology*, 47(Suppl 22), 4–60. <https://doi.org/10.1111/jcpe.13290>.

Sarkisova, F., Morse, Z., Lee, K., & Bostanci, N. (2024). Oral irrigation devices: A scoping review. *Clinical and Experimental Dental Research*, 10(3), Article e912.
<https://doi.org/10.1002/cre2.912>.