PHILIPS

sonicare

AirFloss

Gingivitis Reduction and Plaque Removal

in vivo study

Effect of Philips Sonicare AirFloss on interproximal plaque and gingivitis

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Objective

Philips Sonicare AirFloss is a rechargeable interproximal cleaning device that uses micro-droplets of water accelerated by pressurized air to clean between teeth. The objective of this study was to evaluate the effect of Sonicare AirFloss on interproximal plaque and gingivitis when used in addition to manual toothbrushing.

Methodology

One hundred forty-eight adults (98 females, 50 males; mean age 39.5 years) with moderate gingivitis participated in this single-blind, four-week, parallel, randomized controlled clinical trial. Ethical approval and written informed consent were obtained. Subjects were randomized either to a manual toothbrush (two minutes, twice a day) or to a manual toothbrush (two minutes, twice a day) plus Sonicare AirFloss (once daily, evening). Changes in gingival inflammation were measured using the Gingival Bleeding Index (GBI) at baseline, two weeks and four weeks. The amount of interproximal plaque was evaluated by analyzing the residual protein concentration (RPC) of six plaque samples collected from four posterior sextants (one interproximal site per sextant) and two anterior sextants (three interproximal sites per sextant). Baseline plaque samples were collected prior to any intervention. At two weeks, the plaque removal efficacy from a single use of Sonicare AirFloss was assessed by collecting interproximal plaque samples immediately after subjects used their assigned treatment regimen. Safety of the products was assessed through oral examination, prior to all other assessments.

Results

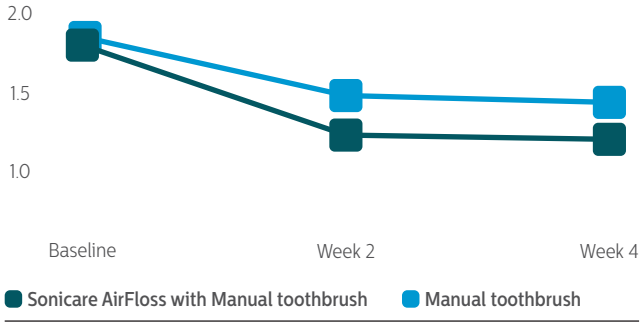
Sonicare AirFloss, when used in addition to a manual toothbrush, provided significantly greater reductions in gingivitis and bleeding sites ($p<0.01$) than a manual toothbrush alone. After four weeks, Sonicare AirFloss reduced gingival bleeding by 75% more and the number of bleeding sites by 86% more than a manual toothbrush alone. Interproximal plaque evaluated after a single use showed that Sonicare AirFloss removed significantly more plaque than a manual toothbrush alone ($p<0.01$). Both products were safe to use.

Conclusion

Sonicare AirFloss, when used in addition to manual brushing, removed significantly more interproximal plaque and resulted in significantly greater reductions of gingivitis after two weeks and four weeks of use, compared to manual brushing alone.

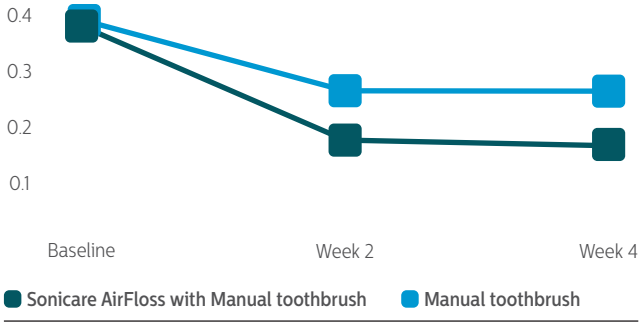
Modified Gingival Index

Adjusted Mean MGI



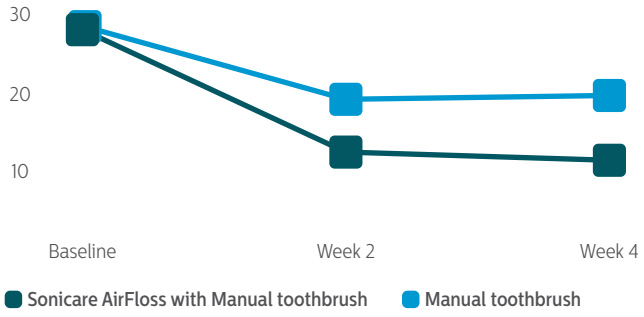
Gingival Bleeding Index

Adjusted Mean GBI



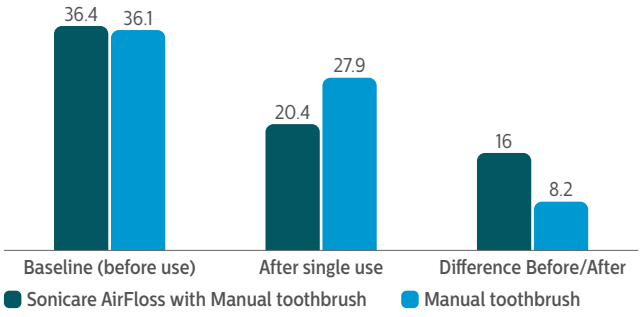
Bleeding Sites

Number of Bleeding Sites



Interproximal Plaque (RPC)

Mean Residual Protein Concentration (µg/ml)



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