

## Fruit and vegetable compound offers hope against gum disease

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Scientists at the University of Birmingham have found that supplementing the diet with a special combination of fruit and vegetable juice powder concentrates may help to combat chronic gum disease when combined with conventional dental therapy.

The results of a preliminary randomised controlled study show that taking a daily dose of capsules containing concentrated phytonutrients improved clinical outcomes for patients with chronic periodontitis (deep-seated gum disease) in the two months following non-surgical periodontal therapy, with additional beneficial changes recorded at five and eight months after therapy.

The study is the first of its kind to report the impact of giving periodontitis patients such a supplement during standard mechanical therapy.

The findings are published online today (18 October) in the Journal of Clinical Periodontology.

Volunteers aged 30-plus suffering from chronic periodontitis were randomly assigned to one of three groups taking **a.** fruit and vegetable powder concentrate capsules; **b.** fruit, vegetable and berry powder concentrate capsules or **c.** placebo. The supplements, which are marketed commercially in more than 20 countries under the name Juice Plus+® (NSA, LLC, USA), were taken daily following non-surgical scaling and cleaning of the root surfaces of the teeth.

Sixty volunteers completed the two-month review and 54 completed the eight-month review. Clinical outcomes improved significantly in all groups at two months as expected from the standard mechanical therapy. However, in the fruit and vegetable group, and in the fruit, vegetable and berry group, there were additional statistically significant improvements in gum pocketing (a measure dentists use to gauge gum health) at two months. Improvements in gum bleeding followed at five months and in lower dental plaque levels at eight months.

The research team concludes: "Adjunctive juice powder concentrates appear to improve initial pocket depth reductions in nutritionally replete patients where plasma micronutrient bioavailability is attainable."

"This was a very complex study and we were surprised to see these outcomes, because when the standard therapy works so well, it creates a 'ceiling effect' whereby it is difficult to improve further," says Professor Iain Chapple of the Periodontal Research Group at the University's School of Dentistry, which led the study. "It is difficult to assess the size of the additional clinical benefit, because these patients were well nourished, and had the highest quality standard therapy anyhow. We are very interested in what the effects will be in people who are nutritionally depleted, and in those who do not or cannot access high quality gum care."

The Birmingham researchers are now leading a large multicentre trial in partnership with researchers in Holland and Germany to test the clinical significance of these findings in such an "un-treated" population.

\* For more information, please contact Jenni Ameghino, University of Birmingham press office, United Kingdom, 0121 415 8134 or 07768 924156.

\* ***Adjunctive daily supplementation with encapsulated fruit, vegetable and berry juice powder concentrates and clinical periodontal outcomes: a double-blind RCT.***

### Notes to editors

- Professor Chapple is available for interview. Please contact the press office to arrange.
- Periodontitis is a complex chronic inflammatory disease. In recent years, evidence has emerged that diets rich in refined carbohydrates and saturated fats are pro-inflammatory while those rich in polyunsaturated fats, such as fish oils, antioxidant micronutrients and certain nuts are anti-inflammatory.