

# Fruit and vegetable compound offers hope in fight against gum disease

Posted on Friday 21st October 2011

A study at the university has found 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 research published in the Journal of Clinical Periodontology is the first of its kind to report the impact of giving patients such a supplement during standard mechanical dental therapy.

Taking a daily dose of capsules containing concentrated phytonutrients, which are nutritional supplements derived from plant material, improved clinical outcomes for patients with chronic periodontitis, a deep seated inflammatory gum disease. Improvements were observed in the two months following non-surgical periodontal therapy, with additional beneficial changes recorded at five and eight months.

Volunteers suffering from chronic periodontitis were randomly assigned to one of three groups. They were then instructed to take a daily capsule of either, a fruit and vegetable powder concentrate, a fruit, vegetable and berry powder concentrate or a placebo. This followed on from a non surgical scaling and cleaning of the root surfaces of the teeth

All groups exhibited improved clinical outcomes after two months which was to be expected following the standard mechanical therapy. However, in the fruit and vegetable and fruit, vegetable and berry groups there were additional statistically significant improvements in gum pocketing, a measure dentists use to gauge gum health at two months. Improvements followed in gum bleeding at five months and in lower dental plaque levels at eight months.

The supplements which are marketed commercially in over twenty countries under the name Juice Plus + ®, contained various mixtures of juice powder concentrates from twenty six different fruits, vegetables and berries. 'Adjunctive juice powder concentrates', a member of the research team said 'appear to improve initial pocket depth reductions in nutritionally replete patients where plasma micronutrient bioavailability is attainable.'

A national adult dental health survey has revealed that fifty four percent of those over the age of sixteen show moderate signs of periodontitis, with a further five percent exhibiting severe symptoms. The disease is caused by a build up of plaque resulting in toxins which destroy structures holding the teeth in position; this can often lead to tooth loss.

Professor Iain Chapple of the Periodontal Research Group at the University's School of Dentistry and study leader said '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'. He continued, '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. This will test the clinical significance of these findings in such an "un-treated" population.

**Patrick Russell**