

## The perfect approach to oral and dental health

A growing awareness of how to create and maintain a healthy and balanced inner ecosystem has swayed many people towards using natural therapeutic products. In a society of information overload, it is not always easy to identify effective and safe products that can be used. One such area is pinpointing natural dental and oral health care products that are effective while offering healing properties.

Recent research has highlighted the effective properties of xylitol and *Curcuma xanthorrhiza* extract and their oral and dental benefits. In fact, the World Health Organization has given xylitol its safest rating for food additives.<sup>1</sup>

Xylitol, which is 100% natural, inhibits the formation of acids causing tooth decay, as its five-carbon structure cannot be metabolised by bacteria. Regular use of xylitol may drop the number of acid producing bacteria by 90%.<sup>1</sup> Replacing sugar with xylitol creates an oral environment within which, the pH level is able to rise swiftly to a normal and healthy value, curtailing enamel erosion and supporting remineralisation.

Saliva containing xylitol has a higher level of alkalinity than saliva containing other sugar products. Once the pH level of the saliva rises above seven, the calcium and phosphate salts in the saliva start to repair weak enamel and allow calcium deficient areas to harden.<sup>1</sup>

A double blind study done in the 1980's with 1 277 schoolchildren from Belize clearly demonstrated the therapeutic properties of xylitol.<sup>2</sup> Divided into three groups, they were set the task of chewing gum several times a day - even over weekends and during holidays. The first group, chewed gum sweetened with sucrose and after the experimental period of 40 months showed an increase of 120% caries. The second group, given gum sweetened by sorbitol, showed a reduction of 26% fewer caries at the

end of the experiment. The group provided with gum containing xylitol experienced an incredible 73% less caries after the 40-month period.

Continued use of xylitol, which in itself is anti-adhesive, prevents the *S. mutans* from adhering to the surface of the teeth, preventing a build up of plaque. These *S. mutans* are then disposed into the saliva, where their effect becomes negligible.

It is interesting to note that even newborn babies have bacteria introduced into their mouths through kissing. Trials in Finland have shown that mothers treated with xylitol had children with lower *S. mutans* levels than mothers treated with chlorhexidine or fluoride varnish.<sup>3</sup> Xylitol has a pleasant, sweetish taste adding to its selection as a product of choice. For superior results, xylitol should be used over a prolonged period, at regular intervals throughout the day.

Combining xylitol with *Curcuma xanthorrhiza* extract (CXE) completely prevented the growth of Planktonic *S. mutans* and *S. mutans* biofilm formation. CXE and xylitol arrested the growth of these bacteria after one minute's exposure at a concentration of 50ppm. This was clearly demonstrated through clinical research done at the Department of Preventative Dentistry and Public Oral Health in Seoul, South Korea.<sup>4</sup>

These studies showed that natural CXE could be promoted and used in dental and oral health to prevent caries because of its strong anti-bacterial properties, inhibitory effects on acidogenesis and alteration of the microstructure of *S. mutans* biofilm.

Further studies, conducted at the Yonsei University in Seoul, showed that CXE also acted as a bactericide against *A. viscosus* and *P. gingivalis*, which cause periodontitis.<sup>2</sup> This plant, sometimes called Javanese Turmeric, is also used to combat bad breath.

After the age of 30, periodontal disease (gingivitis and periodontitis) is responsible for more tooth loss than dental cavities.<sup>5</sup> It is within this sphere that rhatany root extract complements the oral hygiene properties of xylitol and CXE. Although rhatany root extract also has antibacterial properties, it extends the oral hygiene platform, in that it is excellent for the treatment of mucosa inflammation, gingivitis and ulcerated and spongy gums. Its benefits arise from its powerful properties as an astringent, anti-oxidative, anti-inflammatory and anti-fungal element.<sup>6</sup>

Adding the attributes of tormentil will further enhance an already efficient oral and dental programme. These attributes include astringent, antibacterial, anti-inflammatory, anti-oxidant and antiviral properties. Tormentil is excellent for treating non-bacterial inflammation of the gums and mucous membranes of the mouth and throat (gingivitis, stomatitis) as well as denture sores.<sup>7,8</sup>

*Schisandra sphenanthera* extract is another natural choice for an effective dental programme. *Schisandra sphenanthera* has impressive anti-inflammatory, anti-irritant and anti-oxidant properties. Its anti-inflammatory attributes are based on COX-2 and pro-inflammatory prostaglandin (PG) inhibition.

The final two ingredients in creating a superior dental programme are myrrh and sage extract. Myrrh for its effectiveness in treating aphthous stomatitis (ulcers) and halitosis and both myrrh and sage for the treatment of gingivitis. Sage also has the additional properties as an anti-bacterial, antioxidant and anti-inflammatory agent.<sup>9</sup>

Master Health Products, a South African-based company has achieved a world first by combining the superb properties of all of these pure plant extracts to produce a range of oral and dental products which maintain and improve overall dental health.

The PUREFRESH range consists of a natural herbal toothpaste, an oral rinse and daily lozenges. The toothpaste and oral rinse include nearly all the natural plant extracts mentioned and thus, contain no carcinogenic, cariogenic or bacteria and fungal fostering elements. Together, they provide intensive therapeutic benefits during the morning and evening brushings. Because PUREFRESH toothpaste is concentrated, only a small quantity is needed

and it therefore lasts longer. The oral rinse with its soothing anti-inflammatory properties can also be used to counter the first signs of a cold.

The lozenges are an exciting addition to the range as they consistently provide oral health and fresh breath throughout the day. The lozenges can be dissolved in the mouth or sucked at any time between brushing to freshen one's breath.

This ground-breaking range makes it one of the best in the marketplace as, combined, the three products provide a natural, therapeutic alternative to oral and dental health which is effective and safe.

### References

1. www.xylitol.org. [January 2011]
2. Mäkinen KK, Bennett CA, Hujoel PP, Isokangas PJ, Isotupa KP, Pape HR Jr, Mäkinen PL.(1995) <http://www.ncbi.nlm.nih.gov/pubmed/8600188> [November 2010]
3. Lynch H and Milgrom P (2003) <http://www.ncbi.nlm.nih.gov/pubmed?term=12693818> [March 2011]
4. Hae Sun Kim et al., 2007, Key Engineering Materials, 342-343, 861
5. The Institute for Optimum Nutrition. N.d. <http://www.ion.ac.uk/healthnotes.php?org=ion&ContentID=1021004> [March 2011]
6. Flavex, n.d., <http://www.flavex.com/>. [September 2010]
7. [http://www.florahealth.com/herbal\\_encyclopedia\\_usa.cfm?appSession=109071454390673](http://www.florahealth.com/herbal_encyclopedia_usa.cfm?appSession=109071454390673) [March 2011]
8. <http://www.medmelon.gr/frontend/new.php?aid=406&cid=123> [March 2011]
9. [http://www.dickcontino.com/sageantiinflammatory\\_antiseptic.htm](http://www.dickcontino.com/sageantiinflammatory_antiseptic.htm) / [September 2010]



E-mail: [info@purefresh.co.za](mailto:info@purefresh.co.za) or Tel: 011-803-5445