SEALANT COSTS

Sir, I was interested to read the practice paper by Dr Bonetti on *Evidence not practised: The underutilisation of preventive fissure sealants.*[1] In the recently published clinical guideline by the Scottish Intercollegiate Guidelines Network (SIGN),[2] it has been suggested that resin-based PFSs should be applied to the permanent molars of all children as early after eruption as possible. In other words, applications should usually take place between the ages of 6-7 years for first permanent molars and 11-12 years for second permanent molars.

In 2012/13, approximately 30% of primary 7 children (mean age 11.5 years) in Scotland received PFSs.[3] In Scotland, the current cost of application of PFS to unfilled permanent molar teeth within two years of their eruption is £8.15 per tooth.[4] To increase the uptake of PFSs in first permanent molars from 30% to 60% in Scottish children aged 6-7 years, SIGN estimated that the incremental cost would be over £1 million. Similarly, over £1 million would be required to double the uptake of PFSs in second permanent molars in Scottish children aged 11-12 years.[2]

It was not possible to segregate visits incorporating treatment with visits representing routine examinations in the above estimated costs; therefore, the total cost of service provision in Scotland may have been underestimated. However, potential savings from restorations avoided are also excluded.[2]

Implementation of the SIGN guideline is the responsibility of each NHS board in Scotland. In NHS Lanarkshire, the NHS board where I have been working, mechanisms have already been in place to review the care provided against the guideline recommendations. This includes the appointment of an executive director, a clinical lead and a managerial lead.

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of this alkaloid and produce pilocarpine from callus cell lines in order to save this endangered species.[1] New methods of detection of pilocarpine are being employed. Alexndra Sawya and Ilka Abreu used HPLC-ESI-MS/MS (high-performance liquid chromatography-tandem mass spectrometry) method to detect pilocarpine in paste that is left over after industrial extraction of pilocarpine to permit additional studies of biosynthetic pathway.[3] Genetic breeding programmes have been proposed by Moura and Pinto.[4]

Jaborandi, the only known source of pilocarine, is at the verge of extinction due to human impact. Overharvesting has placed many medicinal species at risk of extinction. We must safeguard our remaining medicinal treasures in the wild for future generations.

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ORAL HEALTH

Charcoal brushes

Sir, in certain South-East Asian countries, charcoal has been added to the bristles of toothbrushes, the bristles of which are black in colour (Fig. 1). Manufacturers of these toothbrushes claim that the blending of charcoal into nylon bristles can reduce halitosis (as charcoal absorbs any bad odour), reduce plaque and also kill bacteria that may develop in the bristles during storage, thus reducing the bacterial contamination of toothbrushes. However, according to our knowledge, these claims are not substantiated by any scientific studies/evidence. These brushes are used and are easily available in Hong Kong, Malaysia, Singapore and worldwide via the Internet.

Al-Ahmad *et al.* conducted a study wherein toothbrush heads were coated with silver to test for its antimicrobial effects but

Fig. 1 Toothbrush with charcoal bristles

the coating did not have any antimicrobial effect against residual bacteria present on the toothbrush head.[1] Turner *et al.* studied the bacterial contamination of toothbrushes which were coated with chlorhexidine.[2] The results of this study showed that there was no difference in the bacterial contamination of toothbrushes with or without chlorhexidine.[2] Yaacob and Park performed a study on local Malaysians who were applying charcoal and salt with their forefinger to clean the teeth and found that all the patients had distinct forms of abrasion on the labial surfaces of the teeth.[3] There have been references in ancient literature of Romans and English adding powdered charcoal to toothpastes for the purpose of decreasing bad breath.[4] As evidenced by the studies performed,[1,2] in today's era of evidence-based dentistry, products and technologies are driven by scientific evidence and not by ancient anecdotal literature. Dentists and the general public should be cautious while advising and choosing their toothbrushes and refrain from using those which still have not been proven scientifically.

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OMFS

Work time restrictions

Sir, a number of countries have implemented restrictions in the number of hours staff are permitted to work. The European Union Working Time Directive (EWTD), fully implemented in the UK in 2009, set a limit on maximum hours of