



## ANALYSING THE AMOUNT OF SOLUBLE FLUORIDE IN TOOTHPASTES

Dear Sir,

We would like to comment on the paper 'Total and free fluoride concentrations of African dentifrices marketed in West Africa' by Jordan et al, published in *Oral Health and Preventive Dentistry* 2011;9:53–58.

At the time of publication of the paper, we observed the shortcomings with regard to the method of fluoride analysis used, but since the problem was obvious to those who are working in this field we did not consider it necessary to comment. It is only since the recent publication of a paper by Giacaman et al,<sup>1</sup> in which the Jordan paper is cited, that we feel it essential to comment on the inappropriate methodology applied by the authors which results in incorrect data.

The anticaries benefit of fluoride-containing toothpaste only becomes significant when a critical threshold concentration of 1000 ppm soluble fluoride is present in the toothpaste.<sup>2</sup> In the paper by Jordan et al, the aim was to determine the total and free fluoride concentration in toothpastes. Total fluoride concentration was assessed with gas chromatography which is an appropriate method. The assessment of free fluoride in a NaF toothpaste with the fluoride electrode is also adequate, but for a NaMFP toothpaste, it is necessary to analyse the ionisable fluoride content through hydrolysis. This can be done either by adding 2 M HCl to the supernatant of the dentifrice suspension<sup>3</sup> or by adding phosphatase.<sup>4</sup>

By omitting this procedure for NaMFP toothpastes, the results for free fluoride presented by Jordan et al are incorrect and consequently the conclusions made are not valid.

Sincerely,

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### References

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