

‘EFFECT OF DIFFERENT CHLORHEXIDINE FORMULATIONS IN MOUTHRINSES ON *DE NOVO* PLAQUE FORMATION’

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BACKGROUND

Chlorhexidine (CHX) 0.2% solution has some limited side-effects such as extrinsic tooth staining, poor taste, taste disturbance, sensitivity changes in tongue, pain, and the content of alcohol. These side effects led to the search of new formulations.

AIM

The aim of this study was to examine the antibacterial effect and side effects of different chlorhexidine solutions, with and without the addition of ethanol.

MATERIAL & METHODS

In this double-blind, randomized, cross-over study, 16 young dental students with a healthy periodontium, abolished all means of mechanical plaque control during 4 experimental periods of 11 days (separated from each other by a washout period of 3 weeks). During each experimental period, they rinsed twice daily with one of the following mouthrinses in a randomized order: CHX 0.2% + alcohol (Corsodyl®), CHX 0.12% + alcohol (PERIO-AID®), CHX 0.12% + sodium fluoride 0.05% (Cariax Gingival®) and CHX 0.12% + CPC 0.05% (PERIO-AID®, new formulation). After 7 and 11 days of undisturbed plaque formation, clinical parameters were recorded, questionnaires completed and plaque samples (supragingivally and saliva) collected.

RESULTS

The CHX 0.12% + alcohol and the CHX 0.12% + CPC 0.05% formulations were as efficient as the CHX 0.2% mouthrinse in retarding *de novo* plaque formation (proven by clinical observations as well as by anaerobic and aerobic culture data), and always superior ($p < 0.001$) to the CHX 0.12% + sodium fluoride 0.05% solution. The subjective ratings were in favor of the new CHX formulation when compared with the other CHX formulations, especially for taste ($p < 0.05$).

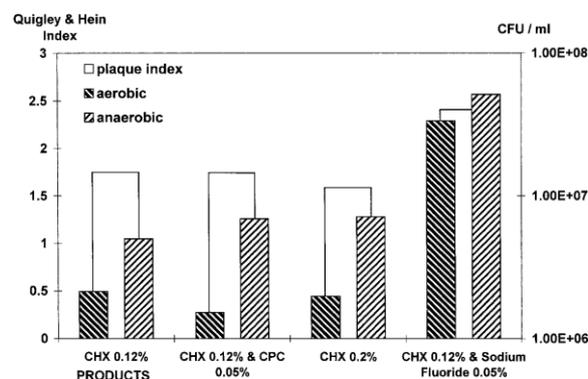


Fig.1 Plaque index was not statistically different between the CHX 0.2% + alcohol and the CHX 0.12% + CPC 0.05% formulations.

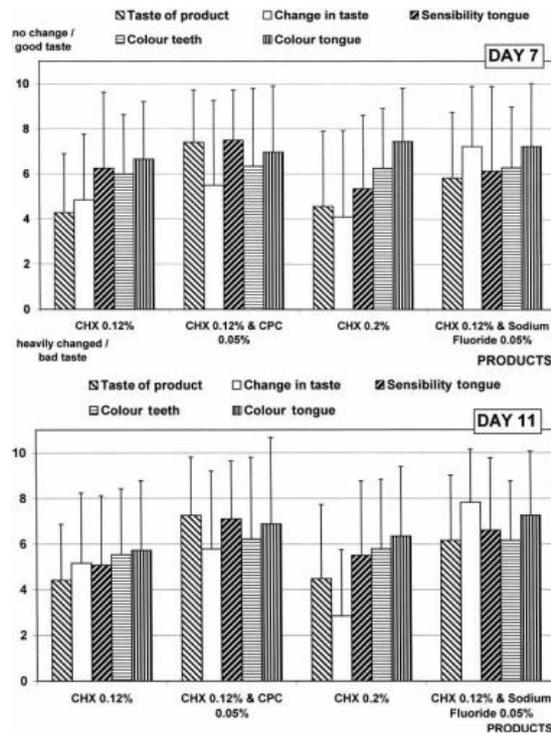


Fig.2 The subjective ratings between the CHX 0.12% + CPC 0.05% formulation and the CHX 0.2% + alcohol were in favour of the former and even statistically different for taste.

CONCLUSIONS

The results of this study demonstrated the potential of a new CHX 0.12% + CPC 0.05% non-alcoholic formulation as an effective anti-plaque and anti-inflammatory agent with reduced unpleasant subjective side-effects.

PRACTICAL IMPLICATIONS

This study demonstrated that it was possible to formulate an effective 0.12% chlorhexidine mouthrinse without alcohol in its formula. Also there was no statistically significant difference between the clinical activity of the 0.12% chlorhexidine plus 0.05% cetylpyridinium chloride mouthrinse and the 0.2% chlorhexidine plus alcohol mouthrinse, and even some side effects were improved.