

## Efficacy of a Dentifrice Containing Zinc Citrate for the Control of Plaque and Gingivitis: A 6-Month Clinical Study in Adults

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The objective of this 6-month, double-blind, clinical study, conducted in harmony with American Dental Association (ADA) guidelines, was to evaluate the efficacy of a dentifrice containing 2% zinc citrate and 0.76% sodium monofluorophosphate in a silica base (zinc citrate dentifrice) for the control of supragingival plaque and gingivitis, compared to a control dentifrice containing 0.76% sodium monofluorophosphate in a silica base (control dentifrice). Adult men and women from the Atlanta, Georgia, area were entered in the study and stratified into two treatment groups, which were balanced for baseline Quigley-Hein Plaque Index scores and baseline Loe-Silness Gingival Index scores. Participants received an oral prophylaxis and were instructed to brush their teeth twice daily (morning and evening) for 1 minute with their assigned dentifrice, using a soft-bristled toothbrush. Examinations for supragingival plaque and gingivitis were conducted after 3 months and again after 6 months' use of the study dentifrices. Ninety-nine participants complied with the protocol and completed the entire 6-month clinical study. At both the 3- and 6-month study examinations, the zinc citrate dentifrice group exhibited statistically significant reductions in both plaque and gingivitis compared to the control dentifrice group, based on whole-mouth data. At the 6-month examination, the magnitude of these reductions met or exceeded 18% for both plaque and gingivitis (25.3% for plaque; 18.8% for gingivitis). The effect of the zinc citrate dentifrice was most pronounced on the more severe manifestations of plaque and gingivitis, indicating a statistically significant (50.2%) reduction in severe plaque and a statistically significant (66.7%) reduction in severe gingivitis over the control dentifrice after 6 months of use. Similar findings were observed for data obtained from proximal, lingual, and posterior sites. Among the sites that indicated a tendency toward high levels of plaque or gingivitis based on the baseline scores, substantially fewer sites tended to continue to present such high levels at follow-up exams in the zinc citrate dentifrice group than in the control dentifrice group. Thus, in accordance with the 1986 guidelines published by the ADA and the 1994 revision published by the Task Force on Design and Analysis in Dental and Oral Research, the results of this study support the conclusion that a dentifrice containing 2% zinc citrate and 0.76% sodium monofluorophosphate in a silica base is clinically efficacious for the control of supragingival plaque and gingivitis.