P&G Oral Presentations

007

Sibling Caries: Evidence from Four Geographically-Diverse Cross-Sectional Studies

R.W. Gerlach*, R.D. Bartizek, S.A. Jacobs, A.R. Biesbrock
Procter & Gamble, Mason, OH, USA

Several factors contribute to the familial nature of dental caries, including genetic and bacteriological homogeneity, similarities in behaviors and diets, issues related to access to dental care and other factors. These familial relationships were examined as part of 4 separate, large multicenter caries surveys conducted in markedly dissimilar sites in the US, Caribbean and Latin America. Field research was conducted over a 1 year period using a common design and calibrated examiners, who evaluated school children age 9-12 years for coronal caries (Radike). As part of the assent process, trained interviewers asked each child in their native language "do you have any brothers or sisters who have tooth decay or cavities?" The caries examination was conducted independent (time and place) of the interview, by a blinded examiner. A total of 1162 subjects participated in the 4 surveys. Mean caries prevalence ranged from 3-6 DMF-S. In each of these 4 surveys, children who reported siblings with caries had an increase in caries prevalence with respect to DMF-S ranging from 18-116% and differing significantly from the negative "sibs" respondents in most regions. Because D-S rates were similarly 18-112% higher among the positive "sibs" group, causality was not solely or primarily attributable to common dental treatment among family members. **This broad-based, multicountry research demonstrates that self-report of sibling caries is a simple screening tool for identifying higher-risk children, which may be useful in targeting prevention or evidence-based treatment programs, or in determining eligibility and improving efficiencies associated with longitudinal caries clinical trials.**

1173

DNA Duration of Tooth Whitening Following 14 Days Treatment with Peroxide-Containing Whitening Strips

P.A. Sagel*, P.A. Walters, R.D. Gibb, R.W. Gerlach
Procter & Gamble, Mason, OH, USA

While the short term use of peroxide-containing bleaching gels is recognized as an effective approach for tooth whitening, few clinical studies have evaluated long term color maintenance. For carbamide peroxide tray-based systems, there is limited evidence that the initial bleached color may be maintained for up to 3 years (Leonard, Comp Contin Educ Dent 1998). A randomized clinical study was conducted to objectively measure duration of benefit following treatment with a hydrogen peroxide bleaching gel applied using a flexible, polyethylene strip. In this study, 23 subjects were treated with 5.3% H_2O_2 strips (Crest Whitestrips™) on the maxillary arch for 30 minutes BID or QD over a 14 day period. Digital image analysis was used to measure anterior tooth color in CIELab color space at baseline, end-of-treatment, and 1.5, 3, 4.5 & 6 months post-treatment. Post-treatment overall mean color change from baseline (DE*) was modeled to estimate time-to-return of baseline tooth color. Both treatments were effective ($p<0.001$), with the BID group experiencing 30% greater overall whitening compared to the QD group. Monthly composite color change (DE) during the post-treatment period was estimated at -0.034 and -0.083 units/month for the QD and BID groups respectively. Using the lower 90% confidence bound for the modeled mean level of DE*, overall color maintenance in both groups was estimated to exceed 24 months. **This research demonstrates that 14 days treatment with 5.3% H_2O_2 whitening strips yields a long term whitening benefit estimated to last on average at least 24 months.**

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