RCT of 10% chlorhexidine coating for the prevention of adult caries

Athena Papas
Tufts University School of Dental Medicine, USA

Objective: The prevention of adult caries study, an NIDCR-funded multicenter, double-blind, randomized clinical trial, enrolled 983 adults (aged 18-80) at high risk for developing caries to test the efficacy of a chlorhexidine diacetate 10% weight per volume (w/v) dental coating (CHX).

Methods: A computer randomly assigned participants to receive either the CHX coating (n=490) or a placebo control (n=493). Coatings were applied weekly for four weeks and a fifth time 6 months later. The primary outcome (total net D1-2FS increment) was the weighted sum of changes in tooth surface status over 13-months. Additionally a small sub set was followed for an additional 6 months for safety.

Results: We observed no significant difference between the two treatment arms in either the intention-to-treat or per-protocol analyses. Analysis of three protocol-specified secondary outcomes produced similar findings. The safety of 10% (w/v) chlorhexidine diacetate coating was verified by microbial analysis.

Conclusion: This trial failed to find that 10% (w/v) chlorhexidine diacetate coating was superior to placebo coating for prevention of new caries.

Biography
Athena Papas is the Erling Johansen Professor of Dental Research and the Head of the Division of Oral Medicine at Tufts University School of Dental Medicine in Boston, Massachusetts. She has received her Dental degree from Harvard and her PhD in Oral Biology from MIT. She had a Pre-doctoral Fellowship at Massachusetts General Hospital and a Post-doctoral Fellowship at Children’s Hospital. As Principal Investigator, she has led over 100 studies in the fields of geriatric dentistry, cancer, HIV, Sjogren’s syndrome, xerostomia and medically compromised patients. She has worked in multiple areas of translational research, including medications and device therapies.
Athena.papas@tufts.edu

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