

A Comparison of Early Childhood Caries Risk Assessment Techniques in a Pediatric Medical Clinic

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Purpose: Recent interdisciplinary efforts to promote children's oral health call upon non-dental health care professionals to identify children at high-risk for dental disease and refer them to dentists who treat young children. The purpose of this study was to compare three early childhood caries risk assessment techniques to the "gold standard" of a clinical examination by a dentist. Each risk assessment technique was evaluated as a possible tool for use in community-based health settings.

Methods: A total of 120 young children, ages 6 months to 4 years, were evaluated at an inner-city medical clinic serving children of low-income families. Each child received a brief clinical exam, bacterial cultures for *Streptococcus mutans* and *Lactobacillus*, and one colorimetric test detecting acid production of bacteria in dental plaque. Parents completed an interview about home oral hygiene habits, risk and protective factors (the Caries Management by Risk Assessment Tool (CAMBRA)).

Results: Of the 120 children examined, 29.2% had dental caries. Scores based on each caries risk assessment technique were significantly associated with the findings of the clinical dental examination. The three risk assessment techniques varied in cost, time, incubation period, needed training skills, ease of use and child acceptability.

Conclusions: The early childhood caries risk assessment techniques showed trade-offs in terms of their sensitivity, specificity and feasibility. The CRT(SM), combined with an evaluation of a child's dietary habits, was most strongly associated with dental caries in this study sample. The results of this study can be used to make recommendations about effective ways non-dental providers can identify high caries risk among young children.

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