

Abstract

Objective. The aims of the study were 1) to evaluate the caries profile in a group of Saudi adults with several dental restorations, by assessing various caries-related factors using the Cariogram model, and 2) to correlate the Cariogram data, expressed as “the chance of avoiding caries”, to initial caries lesions (DiS), total initial and manifest caries lesions (Di+mS) and filled surfaces (FS). **Material and Methods.** 175 individuals in Saudi Arabia, aged between 18 and 56 years of age, were included. All individuals were interviewed about their oral health, dietary habits and use of fluoride. They were examined for dental caries, both clinically and radiographically. Salivary and microbiological factors, including the number of mutans streptococci and lactobacilli, buffer capacity and secretion rate, were obtained using chair-side tests. **Results.** The number of teeth, total Di+mMFS, Di+mS and FS were 26.0, 53.8, 19.3 and 22.6 respectively. The mean chance of avoiding caries was $31\% \pm 19.7$. The individuals were divided according to Cariogram data “the chance of avoiding caries” into four risk groups: 0-20% (n=66) “high-risk”, 21-40% (n=43) “medium-risk”, 41-60% (n=50) “low-risk” and 61-100% (n=16) “very low-risk”. ANOVA revealed statistically significance differences between the high-risk group and the other three groups with respect to Di+mS ($p<0.01$) and FS ($p<0.05$). The mean DiS of the high-risk group differed significantly from the low-risk group ($p<0.05$). **Conclusions.** The Cariogram model can identify the caries-related factors that could be the reasons for the estimated future caries risk. There is a direct association between the categorized outcomes of the Cariograms and DiS and Di+mS indices. (**Acta Odontol Scand 2008;66:351-7**)