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Abstracts

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test group from 53.09 ± 12.28 to 9.12 ± 6.52 mm^2, and increased from 41.03 ± 10.96 to 56.73 ± 8.16 mm^2 in the control group. After 6 months the active areas values were significantly higher in the control group compared to the test group ($p < 0.01$), at baseline they were higher in the test group ($p < 0.05$). The results showed that integrated non-operative preventive treatment can lower caries risk and root caries progression in high-risk adults.

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Impact of Enamel Defects on Early Caries Development in Preschool Children

*H.D. Mestrinho[a, *], E.F. Silva[b], J.A.C. Fonseca[a], R.R.C. Gomes[a], J.C. Carvalho[a, c]*

joana.carvalho@uclovain.be

[a]Faculty of Health Sciences and [b]Department of Statistics, University of Brasília, Brazil; [c]Faculty of Medicine and Dentistry, Catholic University of Louvain, Brussels, Belgium

Quantitative defects of the enamel are considered risk factors for caries development at cavitated level. Since caries risk assessment and control should be implemented as early as possible in order to prevent operative treatment, it seems interesting to investigate the relationship between enamel defects and caries development also in stages of progression which precede cavitation. The impact of enamel defects on early caries development was investigated in a cohort of Brazilian preschool children. The null hypothesis that developmental defects of the enamel and dental caries are independent and that an association between them occurs by chance was tested. The sample (n = 1,718) was formed by 2- to 5-year-olds attending public nursery in the Federal District of Brazil (0.8 ppm F). Before the examination the children were laid on tables and had their teeth professionally brushed, flossed and dried by means of gauze bandages. Intra- and inter-examiner reliability of developmental defects and caries diagnosis showed non-weighted kappa values of 0.82–0.88. Tooth surfaces were diagnosed as sound, as presenting active lesions (non cavitated and cavitated), inactive lesions (non-cavitated and cavitated) and fillings, as indicated for extraction or extracted. The buccal surfaces were examined for presence of demarcated or diffuse opacity, hypoplasia and their different combinations. Developmental defects of enamel and caries on buccal surfaces were identified in 48 and 26% of the children, respectively. Bivariate analyses at surface level neither showed association between demarcated/diffuse opacity and caries experience nor between hypoplastic surfaces and non-cavitated lesions ($p = 0.29$, GLM). In the multivariate analyses, within-child hypoplastic surfaces were significantly associated with fillings, non-cavitated and cavitated lesions ($p \leq 0.03$, GEE), but children having enamel hypoplasia were not at higher caries risk than those without it ($p = 0.23$, GEE). The null hypothesis could not be accepted for quantitative defects such as hypoplasia, since it had a significant impact on the prevalence of within-child filled surfaces, non-cavitated and cavitated lesions.

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A Comparative Study for Caries Prediction from 18- to 36-Month-Old Children

*Y. Maki[a, *], A. Kurokawa[b], K. Yamada[b]*

maki@tdc.ac.jp

[a]Department of Social Dentistry, Tokyo Dental College, Chiba, and [b]The Lion Foundation for Dental Health, Tokyo, Japan

A semi-quantitative enumeration system was developed to detect *Streptococcus mutans* in saliva. This system generates a result of 3 levels of *S. mutans* within 30 min. The aim of present study was to explore the feasibility of predicting caries incidence from 18- to 36-month-old using this system. At the same time, another microbial test, environmental factors and oral health behavior were introduced for the comparison. 247 children at the age of 18 months and their parents participated in this study. Saliva samples were collected from children and parents using a swab technique. These saliva samples were applied into the semi-quantitative *S. mutans* test device using monoclonal antibodies (SALIVA-CHECK MUTANS; GC, Japan) and Resazurin Disc Test (Showa yakuhin kako, Japan) for the detection of total microorganisms. At the same time, caries experience was examined and questionnaire for oral health behavior was carried out. After 18 months, the same caries risk tests and the caries examination was repeated. Caries incidence and caries increment were calculated for each caries risk level and oral health behavior. The caries increment at the *S. mutans* test level 1, 2 and 3 were 1.2, 1.4 and 3.6, respectively. There was a significant difference between level 1 and 3 ($p < 0.05$). Caries prevalence at the age of 18 months was significantly related to the caries increment after 18 months ($p < 0.05$). Similar level of correlation was found for *S. mutans* and total microorganisms levels between children and parents. However, levels of total microorganisms and oral health behaviour was not related to the caries increment. These results suggest that level of *S. mutans* and caries experience could predict the caries incidence after 18 months.

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Quickscan-Measured Self-Assessed Parental Attitudes and Caries Risk-Related Behaviour in 6-Year-Old Children

*J.H. Vermaire[a, *], C. van Loveren[b], J. Hoogstraten[a]*

e.vermaire@acta.nl

[a]Department of Social Dentistry and Behavioural Sciences, ACTA Amsterdam, The Netherlands; [b]Department of Experimental Preventive Dentistry, Clinical Cariology and Microbiology, ACTA Amsterdam, The Netherlands

Parental attitudes were determined using a self-assessed attitude tool, making them choose between textual descriptions of attitudes. These descriptions were based on a Q-methodological study [Vermaire et al: Community Dent Oral Epidemiol 2010;38: 507–520]. This tool distinguishes 5 parental attitudes towards oral health: (1) conscious and responsible: aware of the need to care and willing to take the responsibility, (2) trivializing and fatalistic: