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Abstracts

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The Impact of Dental Caries on the Quality of Life of Disadvantaged Adolescents

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This study assessed the extent to which dental caries, adjusted for socio-demographic and oral health behavior determinants, impact on oral-health-related quality of life of disadvantaged adolescents. All students attending the 6th to 8th grades of the same public school in the region of Itapoã, Federal District of Brazil (n = 1,122) where water is fluoridated were screened. A total of 618 were selected and examined. The adolescents were 10–15 years old (54.2% female), had at least one permanent second molar without filling or sealant and were enrolled in a prospective controlled clinical trial on occlusal caries. Parents answered a questionnaire about family's socio-economic status. Adolescents answered a questionnaire about demographic and oral health behavior determinants in addition to the Child Perception Questionnaire (CPQ11-14) used for assessment of oral health related quality of life. The questions of the CPQ11-14 were answered on a five-point scale as never (score 0), once/twice (score 1), sometimes (score 2), often (score 3) and every day/almost every day (score 4). The test-retest of the questionnaire and the CPQ11-14 in 5% of the sample showed kappa 0.76 and Intraclass correlation coefficient of 0.63, respectively. Clinical and radiographic examinations for dental caries were carried out. The kappa value for inter-examiner reliability for caries in 5% of the sample was 0.81. The D₃MFT = 0 (D₃ = cavitated dentine lesions, M = missing, F = filled, T = tooth) was observed for 47.4% of the adolescents. The outcome was a high score on oral health related quality of life (median split >9). The prevalence of adolescents with at least one domain being impacted

‘often’ or ‘every day/almost every day’ was 34.8%. Logistic hierarchical regression analysis showed that adolescents with absolute D₃T scores ≥5 were significantly more likely to report a high impact on their oral health related quality of life than adolescents with lower scores (p = 0.03). In conclusion, this study indicated that a high number of cavitated caries lesions with dentine penetration had a significant adverse effect on the oral health related quality of life of disadvantaged adolescents.

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Onset, Development and Arrest of Occlusal Caries in Young Permanent Teeth

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This study describes baseline data of a controlled clinical trial on the onset, development and arrest of occlusal caries in young permanent teeth of adolescents. In the disadvantaged region of Itapoã, Federal District of Brazil, where water is fluoridated, all adolescents attending 6th to 8th grades (n = 1,122) of one public school were screened, 618 were selected and examined. The adolescents, 54.2% female, were 10–15 years old (median = 12 yr), had at least one permanent second molar without filling or sealant. The examination recorded occlusal plaque, status of tooth surfaces and stage of eruption of posterior teeth. Two bitewing radiographs were taken and used for caries detection and treatment planning. Caries status was summarized in DMFT/S scores (D₁ = decayed active, inactive at non-cavitated and cavitated dentine levels; D₃ = decayed active and inactive at cavitated dentine level; M = missing

due to caries, F = filled, T = tooth, S = surface). The adolescents' teeth were professionally cleaned and dried before the examination for caries. Inter-examiner reliability of caries scores showed non-weighted Kappa of 0.81. $D_1MFS = 0$ was observed for 22.1% of the adolescents and $D_3MFT = 0$ for 47.4%. The difference between mean D_1MFT 4.59 (± 3.56) and D_3MFT 1.43 (± 2.05) was significant ($p < 0.0001$, t-test). The same trend was observed at surface level, 6.36 (± 6.05) and 2.43 (± 4.11) respectively ($p < 0.0001$). On occlusal surfaces, active lesions were observed in less than 5% of premolars in contrast to 30% of second molars. Further, the number of active non-cavitated lesions on partially erupted second molars was significantly higher than on those fully erupted ($p < 0.001$, Chi-square test). Finally, inactive lesions were mainly identified on permanent first molars. In conclusion, the findings underline the need to implement non-operative strategies to control caries progression on occlusal surfaces of young permanent teeth, particularly on erupting molars.

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Occlusal ART Restorations Using Three Different Filling Materials: Preliminary Results

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The most used filling material for Atraumatic Restorative Treatment (ART) is the high viscosity glass ionomer cement (GIC). However, some other restorative materials can also be used, as compomer (COM) and the newly developed material called glass carbomer cement (CAR). **Objective:** To evaluate if survival rate (SR) is affected by different fillings materials on ART occlusal restorations in primary molars. **Material and Methods:** A total of 281 children (4–8 years old) with an occlusal carious lesion were selected and randomly allocated into the three restoration material groups: GIC (Equia Fil – GC Corp.), COM (Dyract – Dentsply) and CAR restorations using (Glass Carbomer – GCP Dental). The children were treated on school grounds, following ART principles. Restorations were evaluated after 6 months, using ART criteria, by a calibrated examiner. Restorations SR were evaluated using Kaplan – Meier survival analysis and Log-rank test. Cox regression analysis was used for testing association with clinical parameters ($\alpha = 0.05$). **Results:** The overall SR was 83.9% and the SR per group was GIC = 90%; COM = 81.7% and CAR = 81.2%. There was no significant difference among the three materials tested ($RR = 1.05$, $CI = 0.72–1.53$, $p = 0.79$). Cox regression analysis showed no influence of any investigated clinical features in the survival rate of restorations. **Conclusion:** There was no difference in the survival rate of the three materials tested in in primary molars occlusal cavities.

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Relationship between Food Preference, Prop Sensitivity and Dental Caries Experience of Dental Students

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Aim: The aim of this study was to evaluate bitter, spicy and creamy food preferences of a group of young individuals, to determine their taster status with 6-Propyl-2-thiouracil (PROP) and to investigate the correlation between dental caries experience, bitter food selection and PROP sensation. **The Experimental Approach:** Participants were 210 3rd and 4th year dental students of Marmara University, Dental Faculty, Istanbul, Turkey (77 males, 116 females; age 20 to 29). Participants filled out an anonymous questionnaire for age, height, weight, smoking, drinking habits, hunger, thirst, mood, DMFT and a preference questionnaire comprised of 38 bitter, spicy or creamy food items with 10-point scale (0 = 'dislike' to 9 = 'love'). Then they were asked to taste twice filter papers soaked to a 3.2 mmol/l PROP solution (Sigma-Aldrich) and to rate the bitter sensation experience as 1 = 'none' to 9 = 'highest'. Based on PROP scores, participants categorized as non-tasters, medium-tasters and supertasters. The food preferences reported by participants were categorized into flavor dimensions using a principal component factor analysis with varimax rotation [Catanzaro et al.: Appetite 2013;68:124–131] and all flavor dimensions, PROP categories and caries experience were compared using SPSS 17.0. **Results:** The study group was found 104 (56%), 63 (34%), 18 (10%) for non-taster, medium and supertasters respectively. For the five flavor dimensions found, only spicy foods significantly correlated with PROP sensitivity ($p = 0.044$). Two food-items showed significant correlation with PROP sensitivity (chilli-pepper and red-pepper $p = 0.022$ and $p = 0.037$ respectively). Twenty-five (13.5%) participants were caries free, the group was divided as 48.6% and 51.4% as low and high caries respectively. A significant difference was found between PROP sensitivity and caries experience ($p = 0.040$). **Conclusions:** PROP sensitivity and bitter sensation seem to influence food selection and may have effect on caries experience.