Dentistry 2016, 6:9 (Suppl)
http://dx.doi.org/10.4172/2161-1122.C1.006

Dental erosion prevalence and associated factors among a group of 18-19 years Yemeni adolescents

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Background: The prevalence of dental erosion is rising especially among adolescents and its associated factors vary across populations.

Objectives: To investigate prevalence and factors associated with severe dental erosion amongst a group of 18-19 years old Yemeni adolescents.

Methods: A random sample with a total of 351 was drawn from adolescents aged 18-19 years attending University of Science and Technology Dental Clinics in Sanaa for regular dental examination between September 2012 and June 2013. Dental erosion was graded using a partial recording index on anterior and posterior teeth by Johansson *et al.* 1996 and Hasselkvist *et al.* 2010. Participants were also examined for dental caries and fluorosis. Examinations were carried out in a standard clinical dental setting by one investigator. All participants were interviewed and answered a questionnaire about lifestyle, oral health and general health factors. Descriptive and logistic regression analyses were performed.

Results: Overall participation rate was 74%. Out of all participants (n=260), 14.6% had at least one erosive lesion extending into dentine. Very severe lesions were found only on the palatal surfaces of maxillary anterior teeth. The prevalence of advanced erosive lesions was significantly higher among girls (P=0.044). Factors associated with advanced erosive lesions were absence of fluorosis (OR=3.9), higher intake of cola-type soft drinks (OR=7.4) and pure fruit juices (OR=3.2), higher total amount of consumed acidic beverages (OR=11.4) and not being breastfed (OR=8.2). Dental erosion was not associated with dental caries.

Conclusion: Dental erosion was common among 18-19 years Yemeni adolescents and higher among girls. Advanced erosive lesions were associated with higher consumption of acidic beverages while presence of mild fluorosis and being breastfed were associated with lesser severity of dental erosion.

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Effect of fluoride application on microhardness of enamel demineralization: An *in vitro* study

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Caries and erosion are examples of demineralized enamel. Fluoride often used to reduce demineralization effect. The purpose of this study was to obtain information about effects of fluoride on enamel microhardness demineralization. The method used was an *in vitro* study on specimens of premolars and canines which was caries free and fractures free. The teeth were cut at CEJ and planted on resin. 24 sample were divided into two groups: A control and test group. Samples were immersed in acidic solution with pH 5.0 for 6 hours to demineralization. Then were stored in artificial saliva with pH 7.0 for 17 hours to remineralization. In test group, fluoride applied for 4 minutes, then stored in artificial saliva for 30 minutes. Remineralization and fluoride applications made for 7 days. Demineralization and remineralization assessed by enamel microhardness. The research showed enamel microhardness after remineralization recover for 80% in objects group and 48.7% in control group. Conclusions of this study was that microhardness of demineralize enamel improved better after fluoride aplication.

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