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## Association between sugary diet intake and caries experience among young adults in Dammam, Saudi Arabia: A cross-sectional study

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**Introduction & Aim:** Human health can be affected by dietary lifestyle behaviors. Intake of dietary sugars can affect individual health in different ways; it can play a role in the epidemics of obesity, metabolic syndrome, fatty liver disease and cardiovascular diseases. Another concern is the association between sugary diet and dental caries; intake of dietary sugars is the most important risk factor for dental caries. In Saudi Arabia dental caries is high and caries prevalence was more than 90% in Riyadh. Sugars are metabolized to acids by plaque bacteria resulting in low pH that may cause demineralization of enamel. There is lack of studies about an association between consumption of sugary diet and caries experience among young adults in Saudi Arabia. The hypothesis is that frequent intake of sugary food will result in an increase of caries experience. The aim of the study was to assess the relationship between sugary diet intake and caries experience in young adults in Dammam, Saudi Arabia.

**Methods:** Using a cross sectional study design, a sample was selected by using stratified random method that included male and female preparatory year students (N=1932) from Feb-Apr, 2017 at the Imam Abdulrahman Bin Faisal University, Dammam, Saudi Arabia. Dental caries experience (outcome) was measured by DMFT using WHO criteria by visual and tactile sensation with disposable explorer and mouth mirror, inter-examiner agreement was calculated according to WHO gold standard examiner and kappa test was >0.6. Dietary assessment (consumption of sugary diet) was based on WHO oral health questionnaire for adults that was translated into Arabic and pilot tested on 20 students before final administration. Sugary diet consumption was categorized according to the food items and how often they were taken and coded as follow: 1=rare, 2=several times a month, 3=one time per week, 4=several times a week, 5=one time per day and 6=several times a day. Data were statistically analyzed using one-way-ANOVA test by SPSS version 20.

**Result:** Out of 1932 samples, 1800 participated in the study with a response rate of 93.1%. Of all participants, 45.8% were males and 54.2% were females with mean age of 19.7 years. As shown the mean of biscuit\cake are close to each other, while the largest mean value of 3.09 comes once a day (24.1%) using the biscuit\cake and the smallest value of mean 2.57 comes with several times a month (6.9%) using the biscuit\cake. In the next category which is dedicated for sweetened juices, shows an approximate DMFT mean value among all categories. Of all categories, individuals who drink sweetened juice once a week had the largest DMFT mean value (3.02) (13.5%). While “once a day” category had the lowest DMFT mean value (2.73) (18.7%). The p-value of sweetened juice and biscuit\cake consumption were 0.878 and 0.414, respectively.

**Conclusion:** According to the results, there was no association between sugary diet intake and caries experience among young adults in Dammam, Saudi Arabia.

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