Characteristics of salivary secretion in normal-weight, overweight and obese children : a preliminary study : salivary composition and excessive fat tissue

---

Abstrak

Information on salivary characteristics of young subjects with different body composition is scarce. Thus, the aim of this pilot study was to assess salivary characteristics of normal-weight, overweight and obese children. This is a basic research design in which 68 children (5-12 years) were recruited and anthropometric measurements consisted of body mass index (BMI = Kg/m2), body perimeters (waist/arm circumferences) and subcutaneous fat tissue (triceps/subscapular thicknesses). Stimulated (SS) and unstimulated morning saliva (US) were collected to determine flow rate, pH and triglycerides, urea, alpha-amylase, total protein, phosphate and calcium concentrations. Data were analyzed using normality tests, t test/Wilcoxon, one-way ANOVA/Kruskal-Wallis and Pearson's/Spearman's correlation tests, where appropriate. Results: Age, household income, parents' education, saliva flow and pH did not differ among groups. Waist circumference and subscapular skinfold differed significantly between normal-weight and obese groups; only waist circumference showed significant correlation with BMI in all groups. pH increased significantly from US to SS in all groups; but flow rate increased from US to SS only in normal-weight and overweight groups. Total protein, amylase, urea, phosphate, triglyceride and calcium concentrations did not differ among groups. However, urea, phosphate and calcium concentrations differed significantly between US and SS in the normal-weight and overweight groups, with the lowest values for SS. In the overweight group, total protein also differed between saliva samples and obese group showed no difference in biochemical parameters between US and SS. Finally, some salivary characteristics may vary among normal-weight, overweight and obese children; thus, future studies in a larger sample are needed to fully understand salivary secretion and composition of these subjects.