Analisis malondialdehyde pada saliva sebagai biomarker early childhood caries dihubungkan dengan skor dmf-t OHI-S viskositas dan laju alir saliva = Analysis of malondialdehyde in saliva as biomarker of early childhood caries associated with dmf-t score OHI-S score salivary viscosity and salivary flow rate

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Abstrak

Latar Belakang: Pada tahun 2018 ditemukan angka prevalensi karies anak di Indonesia mencapai 90,2%. Sebelumnya saliva diketahui dapat digunakan sebagai biomarker karies dengan menguji kuantitatif bakteri, identitas konsentrasi protein, karakteristik psikokimia serta karakteristik biokimia. Tujuan: Menganalisis konsentrasi malondialdehyde pada saliva anak ECC (early childhood caries) dan bebas karies serta kaitannya dengan skor dmf-t, OHI-S, viskositas saliva dan laju alir saliva. Metode: Mengukur konsentrasi malondialdehyde pada 33 sampel saliva anak tersimpan (22 sampel saliva anak ECC dan 11 sampel saliva anak bebas karies) dengan ELISA. Hasil: Analisis Mann Whitney antara konsentrasi malondialdehyde pada saliva ECC dan anak bebas karies didapatkan nilai p=0 serta didapatkan nilai p=0 dan r= -0,641 saat dilakukan analisis Spearman. Analisis Kruskal Wallis pada konsentrasi malondialdehyde anak dengan skor dmf-t berbeda didapatkan nilai p=0,014 serta didapat nilai p=0,004 dan r=0,488 saat dilakukan analisis Spearman. Tidak terdapat perbedaan bermakna serta korelasi antara konsentrasi malondialdehyde terhadap skor OHI-S, viskositas dan laju alir saliva berbeda. Kesimpulan: Konsentrasi malondialdehyde pada saliva anak ECC berbeda dengan konsentrasi malondialdehyde anak bebas karies, semakin tinggi konsentrasi malondialdehyde maka semakin parah karies yang dialami anak. Anak dengan skor dmf- t yang berbeda memiliki konsentrasi malondialdehyde yang berbeda pula. Semakin tinggi skor dmf-t semakin tinggi pula konsentrasi malondialdehyde. Tidak ditemukan hubungan antara konsentrasi malondialdehyde pada anak bebas karies dan ECC terhadap skor OHI- S, viskositas saliva dan laju alir saliva.
.....Background: In 2018, prevalence rate of children’s caries in Indonesia reached 90,2%. Previously, saliva was known as a caries biomarker by testing quantitative bacteria, protein concentration identity, psychochemical and biochemical characteristics. Objective: Analyze malondialdehyde concentration in children’s saliva with ECC (early childhood caries) and caries-free and its relation to dmf-t score, OHI-S, salivary viscosity and salivary flow rate. Methods: Measuring malondialdehyde concentration from 33 stored children’s saliva samples (22 samples ECC and 11 samples caries-free) using ELISA. Results: Mann Whitney analysis between malondialdehyde concentration from ECC children’s saliva and caries free children obtained p=0 and then p=0, r= -0,641 for Spearman analysis. Kruskal Wallis analysis of malondialdehyde concentrations in children with different dmf-t scores obtained p=0,014 and p=0,004, r=0,488 for Spearman analysis. There was no significant difference and there was no significant correlation between malondialdehyde concentration and OHI-S score, viscosity and different salivary flow rates. Conclusion: Malondialdehyde concentration in ECC children’s saliva was different from malondialdehyde concentration in caries free children, higher malondialdehyde concentration show worse caries experienced in children. Children with different dmf-t scores had different malondialdehyde concentrations. Higher dmf-t score show higher malondialdehyde concentration. There was no relation between malondialdehyde

concentration in caries-free children and ECC to OHI-S score, salivary viscosity and salivary flow rate.