Kajian nitric oxide pada saliva anak dengan early childhood caries dan bebas karies ditinjau dari skor dmf-t serta korelasi antara laju alir saliva, viskositas saliva, dengan aktivitas karies anak: literature review = Study of nitric oxide in early childhood caries and caries-free children in terms of dmf-t score and correlation between salivary flow rate, salivary viscosity and caries activity in children: literature review

Fheiske R. Joroh, author

Abstrak

Latar belakang: Early childhood caries adalah penyakit gigi dan mulut yang paling umum dan paling sering terjadi pada anak-anak diseluruh dunia. Saliva berfungsi dalam menjaga kesehatan mulut dan homeostasis, serta berperan dalam sistem pertahanan terhadap karies gigi yaitu melalui efek pembersihan, kapasitas buffer, agen antimikroba, serta sebagai penampung ion kalsium dan fosfat untuk remineralisasi lesi karies awal. Nitric oxide yang terdapat dalam saliva memiliki efek antimikroba yang dapat menyebabkan autoinhibisi bakteri-bakteri kariogenik penyebab karies. Tujuan: Mengkaji konsentrasi nitric oxide pada saliva anak dengan early childhood caries dan bebas karies ditinjau dari skor dmf-t serta korelasi antara laju alir saliva, viskositas saliva dengan aktivitas karies anak melalui tinjauan pustaka. Metode: Penelitian ini dilakukan sepanjang bulan Desember 2020-Januari 2021. Pencarian literatur terkait dilakukan melalui 2 database elektronik, yaitu PubMed dan ProQuest dengan menggunakan kata kunci yang sesuai dengan pertanyaan penelitian. Penentuan literatur inklusi dilakukan dengan mengikuti alur PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses), sehingga didapatkan literatur yang menggunakan bahasa inggris, dipublikasikan dalam 10 tahun terakhir, tersedia dalam full-text, serta sesuai dengan kriteria inklusi dan ekslusi. Hasil: Terdapat 4 literatur yang terpilih. 3 buah literatur memaparkan bahwa konsentrasi nitric oxide secara signifikan lebih tinggi pada anak yang bebas karies, dibandingkan anak dengan early childhood caries. 1 buah literatur memaparkan bahwa terdapat penurunan laju alir dan peningkatan viskositas saliva (viskositas kental) pada anak dengan early childhood caries. Kesimpulan: Konsentrasi nitric oxide lebih tinggi pada anak yang bebas karies dibandingkan anak dengan early childhood caries. Penurunan konsentrasi NO di saliva dapat menyebabkan peningkatan pada keparahan karies .....Background: Early childhood caries is a disease of the teeth and mouth that is most common and most often occurs in children around the world. Saliva functions to maintain oral health and homeostasis, and plays a role in the defense system against dental caries, namely through its cleaning effect, buffer capacity, antimicrobial agents, as well as a reservoir for calcium and phosphate ions for remineralization of early carious lesions. The content of nitric oxide in saliva has an antimicrobial effect which can cause autoinhibition of cariogenic bacteria that cause caries. Objective: Study nitric oxide concentration in saliva of children with early childhood caries and caries-free in terms of the dmf-t score and the correlation between salivary flow rate, salivary viscosity and caries activity of children through literature review. Methods: This research was carried out during December 2020-January 2021. The search for related literature was carried out through 2 electronic databases, namely PubMed and ProQuest using keywords that match the research question. The determination of inclusion literature was carried out by following the

PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyzes), so that literature in English was obtained, published in the last 10 years, available in full text, and in accordance with the inclusion and exclusion criteria. Result: There are 4 selected literatures. 3 pieces of literature describe that concentrations nitric oxide were significantly higher in caries-free children, compared to children with early childhood caries. 1 piece of literature describes that there is a decrease in flow rate and an increase in salivary viscosity (thick viscosity) in children with early childhood caries. Conclusion: Nitric oxide concentration was higher in caries-free children compared to children with early childhood caries. Decreasing the NO concentration in saliva can lead to an increase in caries severity.