Perbedaan Kadar Lactoferrin saliva Anak dengan Early Childhood Caries (ECC) dan Bebas Karies Usia 3-5 Tahun = The Differences Lactoferrin Levels in Early Childhood Caries (ECC) and Caries-Free Children aged 3-5 years

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Abstrak

Karies gigi adalah salah satu penyakit menular kronis yang paling umum pada anak-anak usia prasekolah. Bentuk agresif karies gigi pada gigi sulung anak di bawah, sampai dengan usia 71 bulan disebut dengan Early Childhood Caries (ECC). Indonesia melaporkan prevalensi dan keparahan ECC yang tinggi hingga mencapai angka 90%. DKI Jakarta memiliki prevalensi sebesar 81,2%. Faktor risiko utama ECC yaitu host (gigi dan saliva), mikroorganisme kariogenik, dan karbohidrat (substrat). Mikroorganisme kariogenik yang berperan yaitu Streptococcus mutans. Penelitian di Jakarta pada anak usia 3-5 tahun yang memiliki karies, menunjukkan bahwa serotipe f merupakan jenis yang paling banyak di temukan (85,5%), diikuti dengan serotipe c (74,2%), serotipe e (22,6%) dan serotipe d (19,4%). Penelitian lainnya di Jakarta menemukan bahwa kombinasi serotipe c dan f lebih tinggi pada anak yang memiliki karies. Streptococcus mutans serotipe c dan f berperan dalam patogenesis karies gigi, hal tersebut sesuai dengan tingginya tingkat karies gigi di Indonesia. Salah satu faktor host yaitu saliva, merupakan cairan tubuh yang kompleks yang terdiri dari unsur-unsur organik dan anorganik yang penting untuk kesehatan rongga mulut. Komposisi protein saliva seperti Lactoferrin sangat penting karena memiliki kemampuan antibakteri serta berperan dalam sistem imun bawaan dan adaptif. Tujuan penelitian ini adalah untuk menganalisis kadar Lactoferrin saliva antara anak Early Childhood Caries (ECC) dan bebas karies pada usia 3-5 tahun. Metode penelitian: Desain penelitian ini adalah potong lintang analitik secara laboratorik. Penelitian ini dilakukan pada 14 anak dengan ECC dan 14 anak bebas karies. Saliva didapat dari seluruh subjek dan kadar LF diukur menggunakan metode ELISA sandwich. Hasil: Analisis data menggunakan uji Mann Whitney U menunjukkan terdapat perbedaan bermakna antara kadar Lactoferrin anak ECC dan anak bebas karies dengan nilai p=0,006 (p<0,05). Kesimpulan: Kadar Lactoferrin saliva anak Early Childhood Caries (ECC) lebih tinggi dari anak bebas karies yang menunjukkan bahwa Lactoferrin dapat menjadi indikator peningkatan risiko Early Childhood Caries (ECC).

Backgrounds: Dental caries is one of the most common chronic infectious diseases in preschool children. The aggressive form of dental caries in the primary teeth of children under and up to the age of 71 months is called Early Childhood Caries (ECC). Indonesia reports a high prevalence and severity of ECC (90%). DKI Jakarta has a prevalence 81.2%. The main risk factors for ECC are hosts (teeth and saliva), cariogenic microorganisms, and carbohydrates (substrates). The cariogenic microorganisms that

play a role are Streptococcus mutans. Research in Jakarta on children aged 3-5 years who had caries, showed that serotype f was the most common type (85.5%), followed by serotype c (74.2%), serotype e (22.6%) and serotype d (19.4%). Another study in Jakarta found that the combination of serotypes c and f was higher in children with caries. Streptococcus mutans serotypes c and f play a role in the pathogenesis of dental caries, which is consistent with the high level of dental caries in Indonesia. One of host factor, saliva, is a complex body fluid consist of organic and inorganic elements that are important for oral health. Salivary protein such as Lactoferrin is very important because it has antibacterial ability and plays an important role in innate and adaptive immune system. The purpose of this study is to analyze Lactoferrin levels between Early Childhood Caries (ECC) and caries-free children aged 3-5 years. Methods: The design of this study is cross-sectional analytical laboratory. This study was conducted on 14 children with ECC and 14 caries-free children. Saliva were taken from all subjects and the Lactoferrin levels were measured using ELISA sandwich method. Results: Data analysis using the Mann Whitney U test showed that there were significant differences between the levels of salivary Lactoferrin in children with ECC and caries-free children with pvalue 0,006 ($p<0,05$). Conclusion: Salivary Lactoferrin levels in Early Childhood Caries (ECC) were higher than caries-free children which indicate that Lactoferrin can be an indicator of an increased risk of Early Childhood Caries (ECC).