

## Kadar Proline-Rich Protein Sebagai Indikator Early Childhood Caries = Salivary Proline-Rich Protein Levels as a Detection for Early Childhood Caries

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### Abstrak

Latar belakang: Karies merupakan salah satu penyakit kronis dalam rongga mulut dengan angka kejadian cukup tinggi pada anak-anak. Karies gigi yang terjadi pada bayi dan anak usia pra-sekolah dikenal dengan istilah Early Childhood Caries (ECC). Data penelitian dari beberapa negara Asia Tenggara menunjukkan prevalensi kejadian ECC pada anak usia 3-6 tahun sebanyak 25-95%. Selain itu, sebuah penelitian di Jakarta menunjukkan prevalensi ECC sebesar 52,7%. Etiologi ECC melibatkan interaksi antara organisme patogen, substrat karbohidrat terfermentasi, kerentanan host, dan waktu. Sebagai salah satu faktor host, saliva berperan dalam mempertahankan keseimbangan dinamis antara demineralisasi dan remineralisasi. Saliva mengandung proline-rich protein (PRP) yang memiliki sifat antibakteri. Tujuan penelitian ini adalah menganalisis kadar proline-rich protein saliva sebagai indikator Early Childhood Caries. 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 diperoleh dari seluruh subjek dan kadar PRP diukur menggunakan metode ELISA sandwich. Hasil: Analisis data menggunakan uji Mann Whitney U menunjukkan terdapat perbedaan bermakna secara statistik ( $p < 0,05$ ) antara kadar PRP saliva anak ECC dan anak bebas karies. Kesimpulan: Kadar proline-rich protein saliva dapat digunakan sebagai indikator Early Childhood Caries.

.....Backgrounds: Caries is one of the chronic diseases in the oral cavity with a fairly high incidence in children. Caries experienced by infants and pre-school children is known as Early Childhood Caries (ECC). Research data from several countries in Southeast Asia showed that the prevalence of ECC in children aged 3-6 years old ranges from 25 to 95%. In addition, a study in Jakarta showed prevalence of Early Childhood Caries about 52.7%. Etiology of ECC involves interactions between pathogenic organisms, fermented carbohydrate substrates, host vulnerabilities, and time. As one of host factor, saliva plays a role in maintaining a dynamic balance between demineralization and remineralization. Saliva contains proline-rich protein (PRP) that has antibacterial properties. The purpose of this study was to analyze the concentration of proline-rich protein saliva as an indicator of Early Childhood Caries. 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 PRP levels were measured using ELISA sandwich method. Results: Data analysis using the Mann Whitney U test showed that there were statistically significant differences ( $p < 0.05$ ) between the levels of salivary proline-rich protein in children with ECC and caries-free children. Conclusion: The levels of salivary proline-rich protein can be used as an indicator of Early Childhood Caries.