

Hubungan kadar beta defensin-1 saliva dan profil kesehatan rongga mulut perokok = Salivary human beta defensin-1 level and oral health status of tobacco smokers

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Abstrak

ABSTRAK

Latar Belakang: Beta Defensin-1 saliva merupakan salah satu peptida anti mikroba yang mempunyai peranan penting dalam pertahanan imun bawaan terhadap serangan mikroba oral. Aktifitas merokok dapat menyebabkan perubahan profil saliva dan profil kesehatan rongga mulut yang dapat mempengaruhi kadar Beta Defensin-1 saliva. Penelitian sebelumnya mengenai kadar Beta Defensin-1 saliva pada perokok dengan periodontitis kronis dan belum ada penelitian mengenai penilaian kadar Beta Defensin-1 pada perokok dikaitkan dengan profil merokok dan profil kesehatan rongga mulut.

Tujuan: Mengetahui profil saliva dan profil kesehatan rongga mulut serta pengaruhnya terhadap perubahan kadar Beta Defensin-1 saliva pada perokok dan bukan perokok, dikaitkan dengan profil merokok partisipan, yang terdiri dari jenis rokok, durasi merokok, dan frekuensi merokok serta kondisi kesehatan rongga mulut.

Metode: Sebanyak 68 partisipan, yang dibagi menjadi 2 kelompok: 44 (64,7%) perokok dan 24(35,5%) bukan perokok. Data dikumpulkan dari anamnesis, status klinis (gigi, mukosa rongga mulut, dan saliva), dan pemeriksaan laboratorium. Sampel saliva non-stimulasi dengan metode pengumpulan spitting dan disimpan pada -80°C. Analisis kadar Beta defensin-1 dengan menggunakan kit Beta Defensin-1 (Elabscience®, USA), dengan uji ELISA.

Hasil Penelitian: Kadar Beta Defensin-1 saliva perokok dibandingkan dengan pada bukan perokok secara statistik terdapat perbedaan signifikan ($p < 0,05$). Profil merokok (jenis, durasi dan frekuensi) tidak mempengaruhi kadar Beta Defensin-1, namun kadar Beta Defensin-1 saliva pada perokok jenis kretek cenderung lebih tinggi dibanding perokok non-kretek. Keberadaan lesi rongga mulut tidak berpengaruh terhadap kadar Beta Defensin-1 saliva. Profil saliva pada perokok khususnya pH lebih rendah dan berbeda secara statistik dibandingkan dengan bukan perokok ($p < 0,05$). Laju Alir Saliva pada perokok lebih tinggi dibandingkan bukan perokok. Nilai OHIS dan DMF-T pada kelompok bukan perokok cenderung lebih baik dibandingkan dengan perokok.

Kesimpulan: Aktifitas merokok berpengaruh terhadap peningkatan kadar Beta Defensin-1 saliva. Terdapat perbedaan bermakna pada kadar Beta Defensin-1 antara perokok dan bukan perokok. Peningkatan kadar Beta Defensin-1 cenderung terjadi pada rongga mulut yang terdapat lesi. Perokok lebih rentan mengalami karies dan penurunan pH saliva dibandingkan dengan bukan perokok. Profil kesehatan bukan perokok lebih baik jika dibandingkan dengan perokok.

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ABSTRACT

Background: Salivary Human Beta Defensin-1 (SHBD-1) is one of the anti-microbial peptides that has an important role in innate immune defense against oral microbial attacks. Smoking activity can cause changes in saliva profile and health profile of the oral cavity that can affect levels of SHBD-1. The previous studies were focused on SHBD-1 levels in smokers with chronic periodontitis, but there are no studies to assess the

SHBD-1 levels in smokers and associated with smoking profiles and oral health profile.

Objective: To compare the salivary profile and health profile of the oral cavity and its effect on changes in SHBD-1 levels in smokers and nonsmokers. The alteration of SHBD-1 levels was associated with smoking profiles of the participants, which consist of the type of cigarette, duration of smoking, and frequency of smoking and oral health conditions.

Methods: A total of 68 participants were divided into 2 groups: 44 (64.7%) smokers and 24 (35.5%) non-smokers. Data were collected from interviews, clinical examination (teeth, oral mucosa, and saliva), and laboratory examination. The unstimulated salivary flow rate was collected by spitting method and stored at -80 ° C. SHBD-1 level was analyzed by ELISA test using Human Beta Defensin-1 kit (Elabscience®, USA).

Results: The smoker's SHBD-1 levels was compared with non-smokers, and there were statistically significant ($p < 0.05$). The smoking profile (type, duration and frequency) did not affect the SHBD-1 levels, but the SHBD-1 levels in kretek smokers tended to be higher than non-clove cigarette smokers. The presence of oral lesions did not affect the SHBD-1 levels. The saliva profile in smokers typically in lower pH was statistically different with nonsmokers ($p < 0.05$). Salivary Flow Rate (SFR) for smokers is higher than for nonsmokers. OHIS and DMF-T indexes in nonsmokers tend to be better than smokers.

Conclusion: Smoking effected the increasing levels of SHBD-1. There were significant differences in SHBD-1 levels between smokers and nonsmokers. Increasing SHBD-1 levels tend to occur in the oral cavity with lesions. Smokers are prone to have caries and the decrease of salivary pH compared to nonsmokers. The health profile of non-smokers is better than smokers.