Kadar Interleukin 1 Beta Cairan Sulkus Gingiva Subjek Penyakit Periodontal dan Riwayat Covid-19 (Evaluasi Parameter Klinis: Indeks Plak, Kehilangan Perlekatan Klinis, Perdarahan Papila Interdental, dan Gingival Index) = Interleukin 1 Beta Levels in Gingival Sulcus Fluid of Subjects with Periodontal Disease and a History of Covid-19 (A Study on Plaque Index, Clinical Attachment Loss, Papilla Interdental Bleeding, and Gingival Index)

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Abstrak

Latar belakang : Penyakit periodontal disebabkan oleh akumulasi plak mengandung kumpulan mikroorganisme patogen yang memicu respons imun host, menyebabkan pelepasan mediator inflamasi. Peradangan jaringan periodontal yang bersifat kronis menyebabkan inflamasi sistemik derajat rendah dan peningkatan kadar sitokin, seperti Interleukin 1 Beta (IL-1). Respons imun yang konstan terhadap antigen terus menerus terjadi pada penderita long Covid. Terdapat persamaan respons inflamasi menunjukkan potensi hubungan antara periodontitis dengan infeksi COVID-19. Evaluasi parameter klinis periodontal subjek dengan dengan dan tanpa riwayat COVID-19 memberikan pemahaman dampak COVID-19 terhadap kesehatan periodontal Tujuan: Menganalisis hubungan penyakit periodontal dan riwayat COVID-19 dengan parameter klinis periodontal dan kadar sitokin IL-1. Metode : Subjek penelitian berjumlah 36 orang terbagi menjadi tiga kelompok yaitu sehat periodontal, gingivitis dan periodontitis dengan parameter klinis periodontal yang diperiksa yaitu kehilangan perlekatan klinis / CAL, indeks plak / PI, perdarahan papila interdental / PBI dan gingival index (GI). Peneliti menganalisis hasil perbandingan nilai CAL, PI, PBI, dan GI pada subjek penyakit periodontal dengan riwayat COVID-19 dan kadar interleukin dengan ELISA. Hasil: Terdapat perbedaan subjek sehat, dan subjek penyakit periodontal dengan parameter klinis periodontal CAL, PI, PBI, GI yang signifikan ($p<0.05$). Kecenderungan peningkatan parameter klinis periodontal CAL, PI, PBI, GI sesuai keparahan penyakit periodontal. Subjek riwayat COVID-19 memiliki kadar sitokin IL-1 lebih tinggi dibandingkan tanpa riwayat ($p<0.05$). Terdapat hubungan parameter klinis Gingival Index (GI) pada subjek Gingivitis dan PBI dengan kadar sitokin IL-1 pada subjek riwayat COVID-19. Kesimpulan: Terdapat hubungan penyakit periodontal dan riwayat COVID- 19 dengan parameter klinis periodontal dan kadar sitokin IL-1. Studi ini menunjukkan bahwa penyakit periodontal merupakan faktor resiko keparahan dari infeksi COVID dan sebaliknya.

.....Background: Periodontal disease, including gingivitis and periodontitis, is caused by the accumulation of plaque containing a group of pathogenic microorganisms that trigger the host's immune response, leading to the release of inflammatory mediators. Chronic inflammation of the periodontal tissues causes low-grade systemic inflammation and an increase in cytokine levels, such as Interleukin 1 Beta (IL-1). Constant immune responses to continuous antigen exposure occur in individuals with long Covid. The similarity in inflammatory responses indicates a potential connection between periodontitis and COVID-19 infection. Evaluating the clinical parameter periodontal of subjects with and without a history of COVID-19 provides insights into the impact of

COVID-19 on periodontal health Objective: To analyze the relationship between periodontal disease and a history of COVID-19 with clinical parameter periodontal and IL-1 cytokine levels. Methods: The study included 36 participants divided into three groups: a healthy periodontal group, a gingivitis group, and a periodontitis group. The clinical parameter periodontal was assessed using clinical attachment loss (CAL), plaque index (PI), papillary bleeding index (PBI), and gingival index (GI). The researcher analyzed the mean values of CAL, PI, PBI, and GI in patients with periodontal disease, considering their history of COVID-19 and interleukin levels using ELISA. Result: Significant differences were found between subjects with healthy clinical parameter periodontal and those with periodontal disease, as indicated by the values of CAL, PI, PBI, and GI ($p < 0.05$). There was a trend of increasing CAL, PI, PBI, and GI values in line with the severity of periodontal disease. Subjects with a history of COVID-19 showed higher levels of IL-1 cytokine compared to those without a history ($p < 0.05$). There was a relationship between clinical parameter periodontal (Gingival Index - GI) in subjects with gingivitis and PBI with the IL-1 cytokine levels in subjects with a history of COVID-19. Conclusion: There is relationship between periodontal disease and a history of COVID-19 with clinical parameter periodontal and IL-1 cytokine levels. This study suggests that periodontal disease is a risk factor for the severity of COVID-19 infection.