

INTISARI

Scaling dan root planing (SRP) seringkali tidak maksimal dalam menghilangkan inflamasi, edema dan, poket periodontal dan bakteri sehingga digunakan tambahan perawatan kuretase dan antibiotik sebagai terapi selanjutnya. Terapi laser tingkat rendah menggunakan dioda pemancar cahaya untuk mengubah fungsi seluler. Terapi laser ini sering disebut sebagai *photobiomodulation* (PBM). Selain itu, pendekatan fotokimia non-invasif untuk pengendalian infeksi, yaitu *photodynamic therapy* (PDT). Penelitian ini bertujuan untuk mengetahui perbedaan antara penambahan *photobiomodulation* dan *photodynamic therapy* pasca *scaling dan root planing* pada perawatan periodontitis kronis dilihat dengan parameter *probing depth* (PD), *relative attachment loss* (RAL), *papillary bleeding index* (PBI) dan jumlah koloni bakteri.

Tiga puluh titik poket periodontal dengan kedalaman 3-5mm, dibagi menjadi tiga kelompok; SRP dan PBM, SRP dan PDT, serta kuretase masing-masing 10 poket. Evaluasi klinis dilakukan pada hari ke-0, 14, 21 untuk PBI serta hari ke-0, 21, 30 untuk PD dan RAL. Sampel mikrobiologi diambil dari cairan krevikular gingiva di hari ke-0 dan 30. Data reduksi PD, RAL, PBI dan jumlah koloni bakteri dianalisis dengan uji non parametrik *Kruskal Wallis*.

Ada kecenderungan penurunan nilai baik pada PD, RAL, PBI dan jumlah koloni bakteri pada ketiga kelompok perlakuan namun tidak berbeda bermakna secara statistik. Dapat disimpulkan bahwa tidak terdapat perbedaan baik penambahan *photobiomodulation* maupun *photodynamic therapy* pasca *scaling root planing* dalam kajian penurunan PBI, PD, RAL dan jumlah koloni bakteri.

Kata kunci : Periodontitis kronis, *photobiomodulation*, *photodynamic*, kuretase, *scaling root planing*.

ABSTRACT

Scaling and root planing (SRP) are often not optimal in removed inflammation, edema and periodontal pockets and bacteria so additional curettage and antibiotic treatments are used as further therapy. Low-loss laser therapy uses light-emitting diodes to change cellular function. This laser therapy is often referred to as photobiomodulation (PBM). In addition, a non-invasive photochemical approach to infection control, namely photodynamic therapy (PDT). This study aims to determine the differences between the addition of photobiomodulation and photodynamic therapy after scaling and root planing in the treatment of chronic periodontitis seen with parameters probing depth (PD), relative attachment loss (RAL), papillary bleeding index (PBI) and the number of bacterial colonies.

Thirty periodontal pocket points with a depth of 3-5mm, divided into three groups; SRP and PBM, SRP and PDT, and curettage of 10 pockets each. Clinical evaluation was carried out on days 0, 14, 21 for PBI and days 0, 21, 30 for PD and RAL. Microbiological samples were taken from gingival crevicular fluid on days 0 and 30. Reduction data of PD, RAL, PBI and number of bacterial colonies were analyzed by Kruskal Wallis non parametric test.

There was a tendency for impairment both in PD, RAL, PBI and the number of bacterial colonies in the three treatment groups but not statistically significant. It can be concluded that there were no differences in the addition of photobiomodulation or photodynamic therapy after scaling root planing in the study of reducing PBI, PD, RAL and the number of bacterial colonies. **Keyword:** Chronic Periodontitis, photobiomodulation, photodynamic therapy, curettage, scaling root planing.

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