

ABSTRAK

Nama : Muhammad Rizqi
Program Studi : Kedokteran Gigi Program Sarjana
Judul : Pengaruh ekstrak etanol daun miana (*Plectranthus scutellarioides* (L.) *benth*) terhadap viabilitas fibroblas gingiva manusia

Latar belakang: Daun miana (*Plectranthus scutellarioides* (L.) *Benth.*) merupakan tanaman herbal yang mengandung senyawa bioaktif seperti flavonoid, tanin, saponin, dan alkaloid yang berpotensi memiliki aktivitas antibakteri dan antiinflamasi dalam bidang kedokteran gigi. Namun, penggunaannya perlu dievaluasi keamanannya terhadap sel normal, termasuk fibroblas gingiva yang berperan dalam penyembuhan luka dan regenerasi jaringan. **Tujuan:** Mengetahui pengaruh pemberian ekstrak etanol daun miana terhadap viabilitas fibroblas gingiva manusia pada berbagai konsentrasi serta meninjau pemanfaatannya dalam perspektif Islam. **Metode:** Penelitian ini merupakan penelitian eksperimental laboratorik in vitro. Sel fibroblas gingiva manusia dikultur menggunakan media DMEM dan diberi perlakuan ekstrak etanol daun miana dengan konsentrasi 12,5; 25; 50; 100; dan 200 µg/mL. Kelompok kontrol terdiri dari kontrol pelarut, tanpa perlakuan, dan DMSO 10%. Uji viabilitas sel dilakukan menggunakan metode *Cell Counting Kit-8* (CCK-8). Analisis data menggunakan uji Kruskal-Wallis, Post Hoc Mann-Whitney, dan korelasi Spearman. **Hasil:** Rerata viabilitas fibroblas gingiva pada konsentrasi 12,5; 25; 50; 100; dan 200 µg/mL berturut-turut sebesar 121,48%, 116,69%, 117,09%, 117,09%, dan 113,35%. Uji Kruskal-Wallis menunjukkan perbedaan bermakna antara kelompok perlakuan dan kontrol ($p < 0,001$). Uji korelasi Spearman menunjukkan hubungan negatif antara peningkatan konsentrasi ekstrak dan viabilitas sel ($r = -0,66$), namun tidak signifikan secara statistik ($p > 0,05$). **Kesimpulan:** Terdapat perbedaan viabilitas sel fibroblas gingiva manusia setelah pemberian ekstrak etanol daun miana, dengan kecenderungan penurunan viabilitas seiring peningkatan konsentrasi ekstrak.

Kata Kunci: Daun miana, *Plectranthus scutellarioides*, fibroblas gingiva, viabilitas sel, CCK-8.

ABSTRACT

Name : Muhammad Rizqi

Study Program : Dentistry Degree

Title : *The Effect of Ethanol Extract of Miana Leaves (Plectranthus scutellarioides (L.) Benth.) on the Viability of Human Gingival Fibroblasts*

Background: *Miana leaves (Plectranthus scutellarioides (L.) Benth.) are herbal plants containing bioactive compounds such as flavonoids, tannins, saponins, and alkaloids that potentially exhibit antibacterial and anti-inflammatory activities in dentistry. However, the safety of herbal materials on normal cells needs to be evaluated, including gingival fibroblasts which play an important role in wound healing and tissue regeneration. Objective:* *To determine the effect of ethanol extract of miana leaves on the viability of human gingival fibroblasts at various concentrations and to review its potential utilization from an Islamic perspective. Methods:* *This study was an in vitro experimental laboratory study. Human gingival fibroblast cells were cultured using DMEM medium and treated with ethanol extract of miana leaves at concentrations of 12.5, 25, 50, 100, and 200 µg/mL. The control groups consisted of solvent control, untreated control, and 10% DMSO control. Cell viability was assessed using the Cell Counting Kit-8 (CCK-8) method. Data were analyzed using Kruskal–Wallis test, Post Hoc Mann–Whitney test, and Spearman correlation analysis. Results:* *The mean viability of gingival fibroblasts at concentrations of 12.5, 25, 50, 100, and 200 µg/mL were 121.48%, 116.69%, 117.09%, 117.09%, and 113.35%, respectively. The Kruskal–Wallis test showed a significant difference between the treatment and control groups ($p < 0.001$). Spearman correlation analysis indicated a negative relationship between increasing extract concentration and cell viability ($r = -0.66$), although the relationship was not statistically significant ($p > 0.05$). Conclusion:* *There were differences in the viability of human gingival fibroblasts after treatment with ethanol extract of miana leaves, with a tendency for cell viability to decrease as the extract concentration increased.*

Keywords: *Miana leaves, Plectranthus scutellarioides, gingival fibroblasts, cell viability, CCK-8*