

PENGARUH MINYAK ATSIRI SEREH DAPUR (*Cymbopogon citratus*) BERBAGAI KONSENTRASI TERHADAP VIABILITAS SEL FIBROBLAS GINGIVA

INTISARI

Bahan antibakteri kimia sebagai disinfeksi pada perawatan saluran akar anak sering digunakan salah satunya untuk irigasi saluran akar. Toksisitas antibakteri berbahan dasar kimia dalam bidang kedokteran gigi anak sering terjadi. Minyak atsiri sereh dapur (*Cymbopogon citratus*) yang mengandung bahan utama *Citral* dapat dijadikan alternatif bahan antibakteri. Menguji efek sitotoksik dari suatu bahan baru sebelum diaplikasikan secara klinis harus dilakukan. Salah satu indikator untuk mengetahui efek sitotoksitas pada rongga mulut adalah mengamati viabilitas sel fibroblas gingiva. Penelitian ini bertujuan untuk mengevaluasi pengaruh minyak atsiri sereh dapur berbagai konsentrasi terhadap viabilitas sel fibroblas gingiva.

Objek penelitian adalah minyak atsiri sereh dapur. Dilakukan uji sitotoksitas dengan menguji sel fibroblas gingiva yang diberi paparan 13 konsentrasi minyak atsiri sereh dapur dan diuji dengan metode MTT Assay lalu nilai absorbansinya dibaca pada *Elisa reader* dan dihitung persentase viabilitas selnya. Data dianalisis menggunakan ANAVA satu jalur dan dilanjutkan dengan uji *post-hoc HSD*.

Hasil uji ANAVA satu jalur menunjukkan bahwa terdapat perbedaan bermakna persentase viabilitas sel fibroblas antar berbagai konsentrasi minyak atsiri sereh dapur ($p < 0,001$).

Kesimpulan penelitian ini adalah konsentrasi minyak atsiri sereh dapur yang lebih tinggi menyebabkan persentase viabilitas sel fibroblas yang lebih rendah. Kesimpulan tambahan penelitian ini adalah konsentrasi minyak atsiri sereh dapur 0,025% merupakan konsentrasi yang menunjukkan persentase viabilitas sel fibroblas gingiva terbesar.

Kata kunci: Minyak atsiri sereh dapur, persentase viabilitas, sel fibroblas gingiva.

THE EFFECT OF LEMONGRASS ESSENTIAL OIL (*Cymbopogon citratus*) AT VARIOUS CONCENTRATIONS ON THE VIABILITY OF GINGIVA FIBROBLAS CELLS

ABSTRACT

Chemical antibacterial agents as disinfectants in pediatric root canal treatment are often used, one of which is root canal irrigation. Chemical-based antibacterial toxicity in pediatric dentistry is common. Lemongrass essential oil (*Cymbopogon citratus*) which contains citral as its main ingredient can be used as an alternative antibacterial ingredient. It is necessary to test the cytotoxic effect of a new substance before clinical application. An indicator to determine the effect of cytotoxicity on the oral cavity is by observing the viability of gingival fibroblast cells. The aim of this study was to evaluate the effect of lemongrass essential oil at various concentrations on the viability of gingival fibroblast cells.

The object of this research is lemongrass essential oil. Cytotoxicity test was carried out by testing gingival fibroblast cells exposed to 13 concentrations of lemongrass essential oil and tested by the MTT Assay method, then the absorbance value was read on the Elisa reader and the percentage of cell viability was calculated. Data were analyzed using one-way ANOVA and continued with post-hoc HSD test.

The results of the one-way ANOVA test showed that there was a significant difference in the percentage of fibroblast cell viability between various concentrations of lemongrass essential oil ($p < 0.001$).

The conclusion of this study is that higher concentration of lemongrass essential oil causes a lower percentage of fibroblast cell viability. An additional conclusion of this study is that the concentration of 0.025% lemongrass essential oil is the concentration that indicates the largest percentage of gingival fibroblast cell viability.

Keywords: Lemongrass essential oil, percentage of viability, gingival fibroblast cell.