

## ABSTRAK

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Program Studi : Kedokteran Gigi  
Judul Skripsi : Efektivitas Ekstrak Daun Serai (*Cymbopogon citratus*)  
terhadap Pertumbuhan *Staphylococcus aureus* dan  
*Prevotella intermedia* pada Basis Akrilik Piranti Ortodonti  
Lepasan

**Latar Belakang:** Piranti ortodonti lepasan berbahan akrilik memiliki porositas tinggi yang memudahkan kolonisasi *Staphylococcus aureus* dan *Prevotella intermedia*. Klorheksidin glukonat 0,2% efektif tetapi memiliki efek samping. Daun serai (*Cymbopogon citratus*) mengandung flavonoid, tanin, saponin, dan minyak atsiri antibakteri. Penelitian ini bertujuan menilai efektivitas ekstrak daun serai dalam menghambat kedua bakteri dan membandingkannya dengan klorheksidin glukonat 0,2%. **Metode:** Studi in vitro melibatkan 48 lempeng akrilik yang dibagi menjadi empat kelompok perlakuan, yaitu ekstrak daun serai konsentrasi 40% dan 50%, klorheksidin 0,2%, serta DMSO. Lempeng diinokulasi *Staphylococcus aureus* dan *Prevotella intermedia*, kemudian direndam 10 menit. Total koloni dihitung dengan metode *Total Plate Count* (TPC). **Hasil:** Ekstrak daun serai 50% ( $167,6 \pm 32,2$  CFU/mL) dan 40% ( $291,5 \pm 57,8$  CFU/mL) menghasilkan koloni *Staphylococcus aureus* lebih rendah dibandingkan klorheksidin ( $580,5 \pm 59,3$  CFU/mL). Pada *Prevotella intermedia*, koloni terendah terdapat pada klorheksidin, diikuti ekstrak 50%, 40%, dan DMSO. Perbedaan antar kelompok signifikan ( $p < 0,05$ ). **Kesimpulan:** Ekstrak daun serai konsentrasi 40% dan 50% efektif menghambat *Staphylococcus aureus* dan *Prevotella intermedia* pada akrilik piranti ortodonti lepasan serta berpotensi sebagai alternatif klorheksidin.

**Kata kunci:** Ekstrak daun serai, klorheksidin, aktivitas antibakteri, *Staphylococcus aureus*, *Prevotella intermedia*, basis akrilik piranti ortodonti lepasan.

## ABSTRACT

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Judul Skripsi : Effectiveness of Lemongrass (*Cymbopogon citratus*)  
Extract on the Growth of *Staphylococcus aureus* and  
*Prevotella intermedia* on the Acrylic Base of Removable  
Orthodontic Appliances

**Background:** Removable acrylic orthodontic appliances have high porosity, facilitating colonization by *Staphylococcus aureus* and *Prevotella intermedia*. Chlorhexidine gluconate 0.2% is effective but has side effects. Lemongrass (*Cymbopogon citratus*) contains flavonoids, tannins, saponins, and antibacterial essential oils. This study aimed to evaluate the effectiveness of lemongrass leaf extract in inhibiting both bacteria and to compare it with 0.2% chlorhexidine gluconate. **Methods:** This in vitro study involved 48 acrylic plates divided into four treatment groups: lemongrass leaf extract at concentrations of 40% and 50%, 0.2% chlorhexidine, and DMSO. The plates were inoculated with *Staphylococcus aureus* and *Prevotella intermedia*, then immersed for 10 minutes. Colony counts were determined using the Total Plate Count (TPC) method. **Results:** Lemongrass leaf extract at 50% ( $167.6 \pm 32.2$  CFU/mL) and 40% ( $291.5 \pm 57.8$  CFU/mL) produced lower *Staphylococcus aureus* colony counts than chlorhexidine ( $580.5 \pm 59.3$  CFU/mL). For *Prevotella intermedia*, the lowest colony count was observed with chlorhexidine, followed by the 50% extract, 40% extract, and DMSO. Significant differences were found among treatment groups ( $p < 0.05$ ). **Conclusion:** Lemongrass leaf extract at concentrations of 40% and 50% effectively inhibited *Staphylococcus aureus* and *Prevotella intermedia* on acrylic removable orthodontic appliance bases and has potential as an alternative to chlorhexidine.

**Keywords:** Lemongrass leaf extract, chlorhexidine, antibacterial activity, *Staphylococcus aureus*, *Prevotella intermedia*, acrylic base of removable orthodontic appliances.