

ABSTRACT

Background : Oral disease rank first by 60% in Indonesia. One of the bacteria that causes oral disease is *Staphylococcus aureus*. *Staphylococcus aureus* is bacteria that causes gingivitis and belong to gram positive, anaerobic. Pineapple (*Ananas comosus*) is a widely spread plant which can live in highlands as well as in lowlands throughout the globe. Active substances found in pineapple (*Ananas comosus*) peel have antibacterial effect.

Objective : The purpose of this study was to determine the minimum inhibitory concentration and minimum bactericidal concentration of pineapple (*Ananas comosus*) peel extract with 100%, 50%, 25%, 12,5%, 6,25%, 3,125%, 1,56%, and 0,78% concentrations on *Staphylococcus aureus* bacteria (in vitro).

Method : This study was an in vitro, pure-laboratory experimental.. The subjects in this study were *Staphylococcus aureus* and pineapple (*Ananas comosus*) peel extract. Antibacterial effect test was conducted using liquid dilution method on Brain Heart Infusion (BHI) medium and solid dilution method on Triton Soya Agar (TSA) medium pineapple (*Ananas comosus*) peel extract was serially diluted into some concentrations: 100%, 50%, 25%, 12.5%, 6.25%, 3.125%, 1.56%, and 0.78%. Minimum inhibitory concentration and minimum bactericidal concentration were determined by observing the growth of *Staphylococcus aureus* on both medium.

Result: Minimum Inhibitory Concentration (MIC) was at 1,56%, while Minimum Bactericidal Concentration (MBC) was at 3,125%.

Conclusion: Pineapple (*Ananas comosus*) peel extract was effective in inhibiting and eliminating *Staphylococcus aureus*.

Keywords : antibacterial effect, *Staphylococcus aureus*, pineapple peel, dilution method.

INTISARI

Latar Belakang : Penyakit gigi dan mulut menduduki urutan pertama yaitu sebesar 60% di Indonesia. Salah satu bakteri penyebab penyakit rongga mulut adalah bakteri *Staphylococcus aureus*. Bakteri *Staphylococcus aureus* merupakan penyebab gingivitis yang termasuk dalam golongan bakteri gram positif, anaerob. Nanas (*Ananas comosus*) adalah tanaman yang telah tersebar luas ke seluruh dunia dan dapat tumbuh di dataran rendah maupun dataran tinggi. Pada bagian kulit buah nanas (*Ananas comosus*) mengandung zat-zat aktif yang memiliki daya antibakteri.

Tujuan : penelitian ini bertujuan untuk menguji Kadar Hambat Minimal (KHM) dan Kadar Bunuh Minimal (KBM) ekstrak kulit nanas (*Ananas comosus*) dengan konsentrasi 100%, 50%, 25%, 12,5%, 6,25%, 3,125%, 1,56%, dan 0,78% terhadap bakteri *Staphylococcus aureus* secara *in vitro*.

Metode : Jenis penelitian adalah penelitian ekperimental murni laboratoris (*in vitro*). Uji daya antibakteri dilakukan dengan metode dilusi cair pada media Brain Heart Infusion (BHI) dan metode dilusi padat pada media Triton Soya Agar (TSA). Ekstrak kulit nanas (*Ananas comosus*) diencerkan dengan cara berseri kedalam beberapa konsentrasi: 100%, 50%, 25%, 12,5%, 6,25%, 3,125%, 1,56%, dan 0,78%. Kadar hambat minimal dan kadar bunuh minimal ditentukan dengan mengamati dari pertumbuhan bakteri *Staphylococcus aureus* media BHI dan TSA.

Hasil : Kadar Hambat Minimal (KHM) terdapat pada konsentrasi 1,56% dan Kadar Bunuh minimal (KBM) terdapat pada konsentrasi 3,125%. Kesimpulan: Ekstrak kulit nanas (*Ananas comosus*) efektif dalam menghambat maupun membunuh bakteri *Staphylococcus aureus*.

Kata Kunci : daya antibakteri, *Staphylococcus aureus*, kulit nanas, metode dilusi.