

**UJI POTENSI ANTIBAKTERI MINYAK ATSIRI BUNGA CENGKEH
(*Syzygium aromaticum* L.) TERHADAP PERTUMBUHAN
BAKTERI GRAM POSITIF *Staphylococcus epidermidis***

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ABSTRAK

Latar Belakang : *Staphylococcus epidermidis* mengakibatkan sekitar 75% kejadian infeksi. Dua puluh persen kasus infeksi saluran kemih ditemukan pada pasien pengguna perangkat medis yang terkontaminasi *Staphylococcus epidermidis*. *Staphylococcus epidermidis* yang ditemukan di rumah sakit lebih resisten terhadap antibiotik daripada *Staphylococcus aureus*. Alternatif antibakteri yang dapat digunakan yaitu minyak atsiri bunga cengkeh (*Syzygium aromaticum* L.) dengan 80–90% kandungannya didominasi oleh senyawa eugenol yang berpotensi sebagai antibakteri.

Tujuan : Mengetahui potensi antibakteri, rerata zona hambat, pengaruh minyak atsiri bunga cengkeh (*Syzygium aromaticum* L.) konsentrasi 0,5%, 1,0%, 1,5% dan 2,0% terhadap pertumbuhan *Staphylococcus epidermidis*.

Metode Penelitian : Penelitian pra-eksperimen dengan rancangan *Static Group Comparison*. Keempat konsentrasi minyak atsiri bunga cengkeh diujikan terhadap *Staphylococcus epidermidis* dengan metode difusi cakram. Hasil dianalisis secara deskriptif, analitik dan statistik.

Hasil : Rerata zona hambat *Staphylococcus epidermidis* yang terbentuk berturut-turut 6,46 mm, 6,50 mm, 7,83 mm dan 12,60 mm. Hasil tersebut menunjukkan bahwa respon hambatan pertumbuhan *Staphylococcus epidermidis* yang dihasilkan oleh minyak atsiri bunga cengkeh berkategori lemah, dengan efektivitas antibakteri <60%. Pengaruh penambahan minyak atsiri terhadap zona hambat *Staphylococcus epidermidis* yang bermakna mulai terjadi pada konsentrasi 2,0%. Penambahan 0,5% konsentrasi minyak atsiri bunga cengkeh meningkatkan zona hambat *Staphylococcus epidermidis* sebesar 1,976 mm.

Kesimpulan : Minyak atsiri bunga cengkeh (*Syzygium aromaticum* L.) konsentrasi 0,5 %, 1,0 %, 1,5 % dan 2,0 % berpotensi lemah sebagai antibakteri *Staphylococcus epidermidis* dengan rerata zona hambat berturut-turut 6,46 mm, 6,50 mm, 7,83 mm dan 12,60 mm yang menunjukkan adanya pengaruh.

Kata kunci : Antibakteri, minyak atsiri bunga cengkeh, *Staphylococcus epidermidis*

**ANTIBACTERIAL POTENTIAL TEST OF CLOVE ESSENTIAL OIL
(*Syzygium aromaticum* L.) AGAINST GRAM POSITIVE BACTERIA
*Staphylococcus epidermidis***

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ABSTRACT

Background: *Staphylococcus epidermidis* caused about 75% incidence of infection. Twenty percent of cases of urinary tract infections are found in patients using medical devices contaminated with *Staphylococcus epidermidis*. *Staphylococcus epidermidis* found in hospitals is more resistant to antibiotics than *Staphylococcus aureus*. An alternative antibacterial that can be used is clove flower essential oil (*Syzygium aromaticum* L.) with 80-90% of its content dominated by eugenol compounds which have the potential as antibacterial.

Objective: To determine the antibacterial potential, the average inhibition zone, the effect of clove flower essential oil (*Syzygium aromaticum* L.) concentration of 0,5%, 1,0%, 1,5% and 2,0% on the growth of *Staphylococcus epidermidis*.

Research Methods: Pre-experimental research with a Static Group Comparison design. The four concentrations of clove flower essential oil were tested against *Staphylococcus epidermidis* by disc diffusion method. The results were analyzed descriptively, analytically and statistically.

Results: The average of *Staphylococcus epidermidis* inhibition zones formed respectively 6.46 mm, 6.50 mm, 7.83 mm and 12.60 mm. These results indicate that the response to growth inhibition of *Staphylococcus epidermidis* produced by clove flower essential oils is weak, with antibacterial effectiveness <60%. The influence of the addition of essential oils to the *Staphylococcus epidermidis* inhibitory zone began to occur at a significant concentration of 2,0%. The addition of 0,5% concentration of clove flower essential oil increased the inhibition zone of *Staphylococcus epidermidis* by 1,976 mm.

Conclusion: Clove essential oil (*Syzygium aromaticum* L.) concentrations of 0.5%, 1.0%, 1.5% and 2.0% potentially weak as antibacterial for *Staphylococcus epidermidis* with mean inhibition zones respectively 6,46 mm, 6,50 mm, 7,83 mm and 12,60 mm which indicate the effect.

Keywords: Antibacterial, clove flower essential oil, *Staphylococcus epidermidis*