ABSTRAK

UJI ZONA HAMBAT ANTIBAKTERI EKSTRAK DAUN SIMPUR *(Dillenia indica Linn)* TERHADAP *Escherichia Coli* MENGGUNAKAN METODE DIFUSI

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Escherichia Coli merupakan bakteri Gram negatif yang dapat menyebabkan diare dan infeksi saluran pencernaan. Peningkatan resistensi antibiotik mendorong pencarian antibakteri alami, salah satunya daun simpur (Dillenia indica Linn). **Tujuan**: Mengetahui aktivitas antibakteri ekstrak daun simpur terhadap *Escherichia Coli*, perbedaan daya hambat pada berbagai konsentrasi, dan konsentrasi yang paling efektif. **Metode:** Penelitian eksperimen laboratorium menggunakan metode difusi cakram. Ekstrak diperoleh melalui maserasi dengan etanol 70%. Variasi konsentrasi yang digunakan yaitu 40%, 50%, 60%, dan 70%, dengan kontrol positif *ciprofloxacin* dan kontrol negatif DMSO 10%. Setiap perlakuan dilakukan enam kali pengulangan. Data dianalisis menggunakan uji *Shapiro-Wilk* dan *Mann-Whitney*. **Hasil:** Rendemen ekstrak sebesar 20%. Skrining fitokimia menunjukkan adanya alkaloid, flavonoid, saponin, steroid, dan tanin. Rata-rata zona hambat berturut-turut sebesar 1,64±0,24 mm; 1,11±0,08 mm; 0,61±0,06 mm; dan 7,82±0,31 mm. Terdapat perbedaan daya hambat yang signifikan antar perlakuan ($p<0,05$). **Kesimpulan:** Ekstrak daun simpur memiliki aktivitas antibakteri terhadap *Escherichia Coli*, de ngan konsentrasi 70% sebagai konsentrasi paling efektif.

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Kata Kunci: Antibakteri, Difusi cakram, *Dillenia indica Linn*, *Escherichia coli*, zona hambat.

ABSTRACT

ANTIBACTERIAL INHIBITION ZONE TEST OF SIMPUR (*Dillenia indica Linn*) EXTRACT AGAINST *Escherichia Coli* USING THE DISC DIFFUSION METHOD

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Escherichia Coli is a Gram-negative bacterium that can cause diarrhea and gastrointestinal infections. The rise in antibiotic resistance has spurred the search for natural antibacterial agents, one of which is the simpur leaf (*Dillenia indica Linn*). **Objective:** To determine the antibacterial activity of simpur leaf extract against Escherichia coli, the differences in inhibitory activity at various concentrations, and the most effective concentration. Methods: A laboratory experimental study using the disk diffusion **method:** The extract was obtained through maceration with 70% ethanol. The concentration variations used were 40%, 50%, 60%, and 70%, with *ciprofloxacin* as the positive control and 10% DMSO as the negative control. Each treatment was repeated six times. Data were analyzed using the *Shapiro-Wilk* and *Mann-Whitney* tests. **Results:** The extract yield was 20%. Phytochemical screening revealed the presence of alkaloids, flavonoids, saponins, steroids, and tannins. The average inhibition zones were 1.64 ± 0.24 mm; 1.11 ± 0.08 mm; 0.61 ± 0.06 mm; and 7.82 ± 0.31 mm, respectively. There were significant differences in inhibitory activity among the treatments ($p<0.05$). Conclusion: Simpur leaf extract exhibits antibacterial activity against Escherichia coli, with a 70% concentration being the most effective.

Keywords: Antibacterial, disk diffusion, *Dillenia indica Linn*, *Escherichia Coli*, inhibition zone.

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