ABSTRAK

Gastroenteritis akibat *Escherichia coli* masih menjadi masalah kesehatan global, terutama pada anak-anak. Resistensi antibiotik yang terus meningkat mendorong pencarian alternatif antibakteri dari bahan alam. Penelitian ini bertujuan untuk mengetahui efektivitas teh celup berbahan kulit jeruk manis (*Citrus sinensis*) dan buah ara (*Ficus carica L.*) terhadap *E. coli*. Penelitian dilakukan secara eksperimental di Laboratorium Terpadu Universitas Prima Indonesia pada Mei–Juni 2025. Sampel berupa simplisia kulit jeruk dan buah ara diformulasikan dalam tiga rasio berbeda, kemudian diuji menggunakan metode difusi cakram dan mikrodilusi. Parameter yang diamati meliputi diameter zona hambat, konsentrasi hambat minimum (KHM), dan konsentrasi bunuh minimum (KBM). Hasil menunjukkan bahwa formulasi dengan proporsi kulit jeruk lebih tinggi menghasilkan zona hambat lebih besar serta nilai KHM dan KBM lebih rendah, menandakan aktivitas antibakteri yang lebih kuat. Uji fitokimia juga mengonfirmasi adanya flavonoid, alkaloid, polifenol, dan saponin yang berperan dalam mekanisme antibakteri. Kesimpulan: teh celup kombinasi kulit jeruk dan buah ara efektif menghambat pertumbuhan *Escherichia coli* dan berpotensi dikembangkan sebagai antibakteri alami.

Kata kunci: *Escherichia coli*, teh celup, kulit jeruk manis, buah ara, antibakteri

Commented [LI1]: Lengkapi Abstrak berisi (200-250 kata)!
- Struktur: Latar belakang (1-2 kalimat); Tujuan Penelitian (1 Kalimat); Metode penelitian (2-4 kalimat); Hasil Penelitian (2-4 kalimat); Kesimpulan: (1 kalimat)
- Kata Kunci (5 Kata atau Frasa)

ABSTRACT

Gastroenteritis caused by Escherichia coli remains a major global health problem, particularly among children. The increasing prevalence of antibiotic resistance has encouraged the search for natural antibacterial alternatives. This study aims to evaluate the effectiveness of tea bag formulations made from sweet orange peel (Citrus sinensis) and fig fruit (Ficus carica L.) against E. coli. The research was conducted experimentally at the Integrated Laboratory of Universitas Prima Indonesia from May to June 2025. Dried samples of orange peel and fig fruit were formulated into three different ratios and tested using disc diffusion and microdilution methods. Parameters observed included inhibition zone diameter, minimum inhibitory concentration (MIC), and minimum bactericidal concentration (MBCN). Results indicated that formulations with higher proportions of orange peel produced larger inhibition zones and lower MIC and MBC values, reflecting stronger antibacterial activity. Phytochemical screening confirmed the presence of flavonoids, alkaloids, polyphenols, and saponins, which contribute to the antibacterial mechanism. In conclusion, tea bags combining orange peel and fig fruit effectively inhibit Escherichia coli growth and show potential as natural antibacterial agents.

Keywords: *Escherichia coli*, tea bag, orange peel, fig fruit, antibacterial