ABSTRAK

UJI AKTIVITAS ANTIBAKTERI KOMBINASI EKSTRAK DAUN JAMBU BIJI (*Psidium guajava* L.) DAN DAUN SALAM *(Syzygium polyanthum* [Wight.] Walp*)* TERHADAP *Escherichia coli* DAN *Vibrio cholerae*

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Latar Belakang: Penyakit diare masih menjadi salah satu masalah kesehatan masyarakat yang utama di Indonesia. Diare dapat disebabkan oleh bakteri *E.coli* dan *V.cholerae.* Pengobatan diare dapat menggunakan daun jambu biji dan daun salam karena adanya kandungan tannin yang dapat berkhasiat antidiare. Penelitian ini bertujuan untuk mengetahui perbandingan kombinasi ekstrak daun jambu biji dan daun salam yang efektif dalam menghambat pertumbuhan bakteri *E.coli* dan *V.cholerae.*

Metodologi: Penelitian ini dilakukan secara eksperimental menggunakan Rancangan Acak Lengkap (RAL) dengan perlakuan perbandingan ekstrak daun jambu biji dan daun salam sebagai berikut : A (ekstrak daun salam dan daun jambu = 10 ml : 0 ml), B (ekstrak daun salam : daun jambu = 7,5 ml : 2,5 ml), C (ekstrak daun salam : daun jambu biji = 5 ml : 5 ml), D (ekstrak daun salam : daun jambu biji = 2,5 ml : 7,5 ml), E (ekstrak daun salam : daun jambu biji = 0 ml : 10 ml). Daun jambu biji dan daun salam diekstraksi dengan metode maserasi menggunakan etanol 96%. Ekstrak kental yang diperoleh kemudian dibuat konsentrasi 10% untuk ekstrak daun jambu biji dan 30% untuk ekstrak daun salam, dikombinasikan sesuai perlakuan. Masing masing perlakuan dilakukan uji aktivitas antibakteri menggunakan metode Kirby-Bauer dengan kontrol positif kloramfenikol 30µg dan kontrol negatif DMSO 5%. Analisis data menggunakan Anova pada tingkat kepercayaan 95% dan dilanjutkan dengan uji LSD.

Hasil Penelitian: Uji aktivitas perbandingan daun jambu biji dan salam mengahasilkan zona hambat terbesar pada perlakuan D yaitu daun salam 2,5 ml : 7,5 ml daun jambu biji dengan diameter zona hambat 8,6 mm pada *E.coli* dan 8,5 mm pada *V. cholera* dengan kadar tanin yaitu 7,527 % GAE. Sedangkan, zona hambat terkecil pada perlakuan A yaitu daun salam 10 ml : 0 daun jambu bii dengan diameter zona hambat 6,9 mm pada *E.coli* dan 6,6 mm pada *V. cholerae* dengan kadar tanin yaitu 4,486 % GAE.

Kesimpulan: kombinasi daun jambu biji dan daun salam mampu meningkatkan penghambatan bakteri *E.coli* dan *V.cholera,* penghambatan yang paling tinggi dihasilkan oleh kombinasi ekstrak daun jambu biji dan daun salam 7,5 mL dan 2,5 mL.

Kata Kunci: *Psidium guajava* L, *Syzygium polyanthum* [Wight.] Walp, *E.coli*, *V. cholerae*, *Kadar Tanin Total, antibakteri*

ABSTRACT

ANTIBACTERIAL ACTIVITY TEST OF COMBINATION GUAVA LEAF EXTRACT (Psidium guajava L.*) AND BAY LEAF (Syzygium polyanthum* [Wight.] Walp*) TO Escherichia coli AND Vibrio cholerae*

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Introduction : Diarrhea is a disease that has been suffered many Indonesian people since long time ago. This disease still be one of the main public health problems. Occurrence of diarrhea, many are caused by *E. coli* and *V.cholerae* bacteria. Guava leaf and bay leaf both contain tannin that can be efficacious as antidiarrheal. This research aims to determine comparison of guava leaf extract volume and bay leaf which have highest inhibition against *E. coli* dan *V.cholerae* bacteria.

Method : This research was conducted experimentally using a Complete Random Design (CRD) with volume comparison treatment of guava leaf extract and bay leaf as follows : A (bay leaf extract : guava leaf = 10 ml : 0 ml), B (bay leaf extract : guava leaf) = 7.5 ml : 2.5 ml), C (bay leaf extract : guava leaf = 5 ml : 5 ml), D (bay leaf extract : guava leaf = 2.5 ml : 7.5 ml), E (bay leaf extract : guava leaf = 0 ml : 10 ml). Guava leaf extract and bay leaf has extracted with maceration method using ethanol 96%. Viscous extract obtained then made into concentrations 10% and 30%. Each treatments was tested for antibacterial activity using Kirby-Bauer method with chloramphenicol as positive control and DMSO 5% as negative control. Data analysis used ANOVA at the 95% confidence level and continued with LSD test.

Results : Comparative test activity of guava leaf and bay leaf has resulted in the biggest inhibition zone in treatment D, with comparison 7,5 ml : 2,5 ml with 8.6 mm inhibition zone in E. coli and 8.5 mm in *V. cholerae* followed by the magnitude tannin content is 7.527% GAE. Meanwhile, the smallest inhibitory zone in treatment A, with comparison bay leaf 10 : 0 guava leaf with 6.9 mm inhibition zone in E.coli and 6.6 mm in V. cholerae followed by tannin content which was 4.486% GAE.

Conclusion : Combination of guava leaf and bay leaf can increase the inhibition of *E.coli* and *V.cholerae* bacteria, the highest inhibition is a combination of guava leaf and bay leaf extract 7.5 mL : 2.5 mL.

Keywords : *Psidium guajava L, Syzygium polyanthum [Wight.] Walp, E.coli, V. cholerae, Total Tannin Content, Inhibitory Zone, Anti bacterial.*