ABSTRAK

UJI AKTIVITAS ANTIBAKTERI EKSTRAK DAUN JAMBU BIJI (*Psidium guajava* L.) TERHADAP BAKTERI *Escherichia coli* dan *Vibrio cholerae*

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Latar Belakang: Diare merupakan salah satu masalah kesehatan yang masih menjadi penyebab utama tingginya morbiditas dan mortalitas pada anak di negara berkembang termasuk Indonesia.Terjadinya diare disebabkan oleh bakteri *E.coli* dan *V.cholerae.* Daun jambu biji seringkali digunakan oleh masyarakat sebagai pengobatan alternatif mengatasi diare karena adanya senyawa bioaktif terutama tanin. Namun belum ada penelitian spesifik tentang jenis daun yang digunakan. Penelitian ini bertujuan untuk mengetahui perbandingan volume ekstrak daun jambu biji muda dan tua yang memiliki penghambatan paling tinggi terhadap bakteri *E.coli* dan *V.cholerae*.

Metodologi: Ekstrak etanol 96% daun jambu biji muda dan tua diekstraksi dengan metode maserasi**.** Ekstrak kental yang diperoleh kemudian dibuat konsentrasi 10%. Rancangan penelitian menggunakan Rancangan Acak Lengkap (RAL) yang dibagi menjadi 5 perlakuan yaitu A daun muda 0 ml : 10 ml daun tua, B daun muda 2,5 ml : 7,5 ml daun tua, C daun muda 5 ml: 5 ml daun tua, D daun muda 7,5 ml dan 2,5 ml daun tua, dan E daun muda 10 ml: 0 ml daun tua. Masing masing perlakuan dilakukan uji aktivitas antibakteri menggunakan metode Kirby-Bauer dengan kontrol positif kloramfenikol 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 muda dan tua mengahasilkan zona hambat terbesar pada perlakuan A yaitu daun muda 0 : 10 daun tua dengan zona hambat 8,16 mm pada *E.coli* dan 6,96 mm pada *V. cholera* diikuti dengan besarnya kadar tanin yaitu 7,092 %GAE. Sedangkan, zona hambat terkecil pada perlakuan E yaitu daun muda 10 : 0 daun tua dengan zona hambat 6,6 mm pada *E.coli* dan 6,43 mm pada *V. cholerae* diikuti dengan kadar tanin yaitu 4,456% GAE.

Kesimpulan: daun jambu biji muda dan tua konsentrasi 10% dapat menghambat bakteri *E.coli* dan *V.cholera* dengan zona hambat terbesar pada perlakuan A dan zona hambat terkecil pada perlakuan E

Kata Kunci: *Psidium guajava* L, *E.coli***,** *V. cholerae***,** Kadar Tanin Total, Zona Hambat

ABSTRACT

ANTIBACTERIAL ACTIVITIES OF EXTRACT GUAVA LEAF (*Psidium guajava* L) on *Escherichia coli* and *Vibrio cholerae*

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Background: Diarrhea is one of the health problems that is still a major cause of high morbidity and mortality in children in developing countries including Indonesia. The occurrence of diarrhea is caused by *E. coli* and *V.cholerae*. Guava leaves are often used by the community as an alternative treatment for diarrhea due to the presence of bioactive compounds, especially tanins. But there is no specific research on the type of leaf used. This study aims to determine the effective comparison of young and old guava leaves against *E.coli* and *V.cholera*.

Method: Extracts of young and old guava leaves were extracted by maceration method using ethanol 96%. The thick extract obtained was then made up to a concentration of 10%. The study design used randomizedcompletely design (RCD) which was divided into 5 group, They are A young leaves 0 ml: 10 ml old leaves, B young leaves 2.5 ml: 7.5 ml leaves old, C young leaves 5 ml: 5 ml old leaves, D young leaves 7.5 ml and 2.5 ml old leaves, and E young leaves 10 ml: 0 ml old leaves. Each treatment was tested for antibacterial activity using the Kirby-Bauer method with chloramphenicol positive control and DMSO 5% negative control. Data were analyzed using ANOVA at the 95% confidence level followed by LSD test.

Result: Comparative activity test of young and old guava leaves resulted in the largest inhibition zone in treatment A, namely young leaves 0:10 old leaves with inhibition zones of 8.16 mm in *E.coli* and 6.96 mm in *V. cholera* followed by large tanin levels, was 7.092% GAE. Whereas, the smallest inhibition zone in treatment E was young 10: 0 old leaves with inhibition zone of 6.6 mm in *E.coli* and 6.43 mm in *V. cholerae* followed by tanin content which was 4.456% GAE.
Conclusion: young and old guava leaves concentration of 10% can inhibit *E.coli* and *V.cholera* with the largest inhibitory zone in treatment A and the smallest inhibitory zone in treatment E.

Keyword: *Psidium guajava* L, *E.coli***,** *V. cholerae***,** total tanin content, inhibition zone diameter